WITH GA
MacWEEK
21 August 1990 Vol. 4 No. 29 WORKSTATION NEWS

Consultants manage MIS load

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Mac rendering and animation

See GA, Page 31

Aldus drafts major upgrade to FreeHand

By Connie Guglielmo

Seattle — A major upgrade to FreeHand is on the drawing board at Aldus Corp., and sources say it will ship by the end of the year.

FreeHand 3.0 reportedly is a streamlined, faster rendition of the PostScript drawing program, which is being co-developed by Aldus and Altsys Corp. of Plano, Texas. The upgrade represents the first major overhaul to the $495 program since the release of Version 2.0 in November 1988.

Sources said FreeHand 3.0 will be introduced this October at the Seybold Computer Publishing Conference in San Jose, Calif.

Aldus declined to comment.

Version 3.0 will compete with another third-generation drawing program, Adobe Systems Inc.'s

See FreeHand, Page 8

FreeHand 3.0

- First major upgrade since Nov. 1988
- Due by year-end
- Faster screen redraw
- Converts fonts to editable outlines
- Streamlined interface to make it as easy to use as MacDraw

Fall Macs: New form, function

Prototype Mac IIsi sports flexible slot

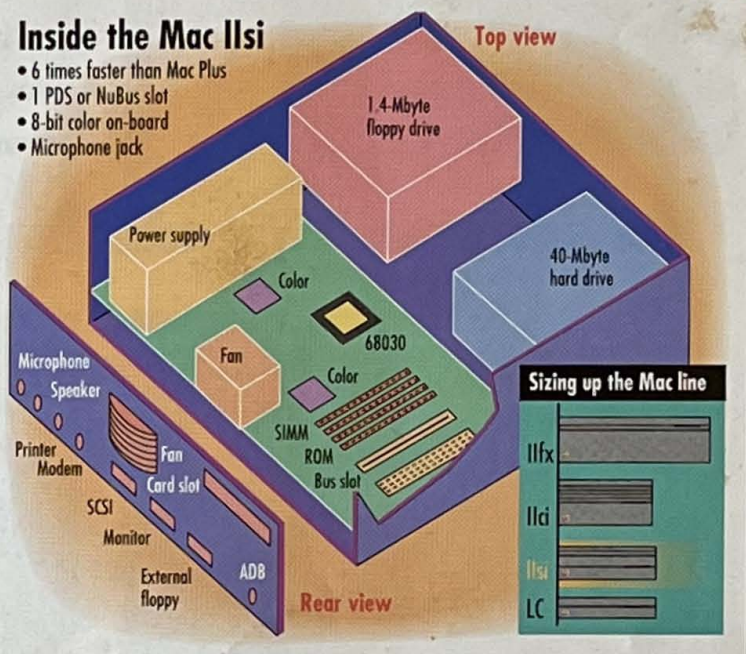
By Raines Cohen

Fremont, Calif. — Apple's factories are gearing up to crank out the trio of new economy Macs slated for introduction this fall. Details continue to emerge, especially on the modular Macs, the IIsi and the LC.

The Mac IIsi. The IIsi is a mainstream high-performance machine that will offer built-in eight-bit color, similar to the IIci, and a single slot that can be used to run Processor Direct Slot cards or NuBus cards (see MacWEEK, Aug. 7).

Approximately 12 by 13.5 by 4 inches in size, the IIsi is about 1.5 inches shorter than the three-slot IIci, with a logic board only two-

See CPUs, Page 9



Maturing DTP finds new niches

NEWS ANALYSIS

By Carolyn Said

San Francisco — Like most revolutionary movements, the 5-year-old Macintosh desktop publishing market has passed its initial fiery stage and is adapting to the new world it has created.

Research indicates stagnation in the DTP market, but industry observers said that it is just evolving and creating new niches.

Sales of Mac page-layout programs grew phenomenally from 1987 to 1988, jumping 121 percent (from $21 million to $46.5 million), according to the Software Publishers Association in Washington. However, 1989 saw sales slump to $35.1 million, down 20.4 percent from the previous year, the SPA said.

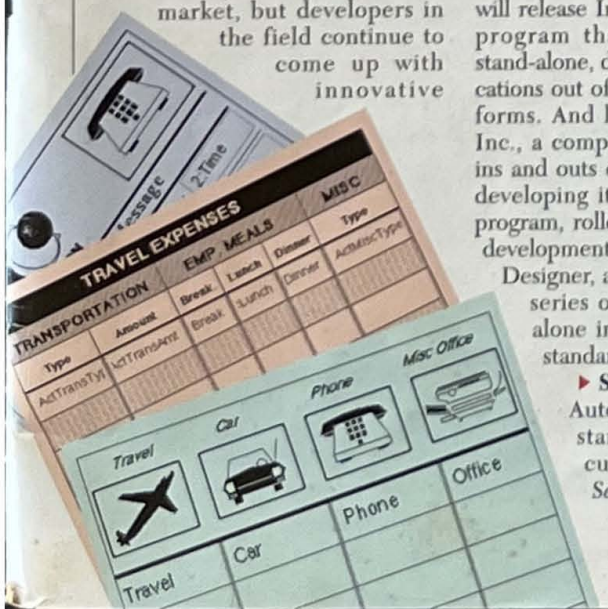
"Growth has stabilized," said Tim Bajarin, executive vice president of Creative Strategies Research International in Santa

See DTP, Page 8

Developers fill out forms market

By Henry Norr

Edmonton, Alberta — Electronic form design and fill-out packages haven't exactly torn up the software market, but developers in the field continue to come up with innovative approaches they hope will entice business buyers to put their paperwork on-screen.



Later this month, Shana Corp. will release Informed AutoForm, a program that lets users make stand-alone, double-clickable applications out of sophisticated custom forms. And last month, Softview Inc., a company that learned the ins and outs of electronic forms in developing its popular MacInTax program, rolled out its own forms-development package, if:X Forms Designer, as well as the first in a series of packages of stand-alone interactive versions of standard business forms.

▸ **Shana's** Informed AutoForm utility creates stand-alone versions of custom forms created

See Forms, Page 8

Mac dBASE IV PLUS more than runtime

Ashton-Tate targets multiplatform sites

By Margie Wylie

Torrance, Calif. — Ashton-Tate Corp. pulled something of a surprise at this month's Macworld Expo by providing the full dBASE IV programming language and other development tools within a Mac product it billed only as a run-time version. But despite the added functionality, managers and consultants interviewed last week, as well as Ashton-Tate representatives, said dBASE IV RunTime PLUS, in its current form, is likely to appeal to only a specific segment of the Mac market.

The character-based Mac implementation of dBASE IV should satisfy the cravings of companies managing networks of mostly IBM PCs and compatibles, said Adam Green, a well-known dBASE guru who works in Lexington, Mass. "No Mac user would want this. This is not a Mac product," Green said.

"This is a product that will let your Mac run DOS applications written in Version 1.1 of dBASE IV. That's about all it's really intended to do," said Tony Lima, a consultant in San Carlos, Calif. The new program should run the tens of thousands of in-house corporate

See dBASE, Page 9

LATE NEWS

Gorbachev aides kick tires on Mac

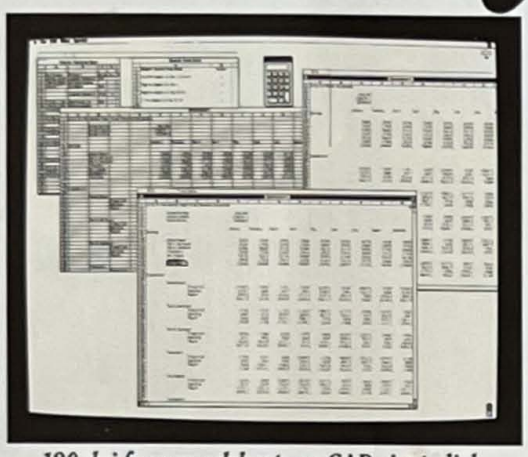
Moscow — A delegation led by Apple Senior Vice President Al Eisenstat met here last week with two close advisers to President Mikhail Gorbachev. E.P. Velikhov, vice president of the Academy of Sciences of the Soviet Union, and Abel Aganbegyan, rector of the Academy of National Economy, met with the Apple group to discuss a plan to equip the U.S.S.R. Supreme Soviet with Macs. □

IBS to offer Mac managers Net Control

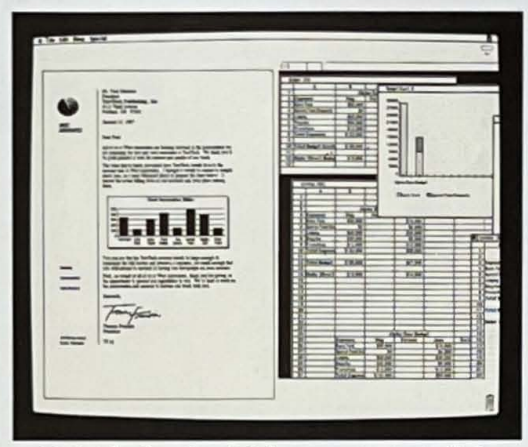
Sunnyvale, Calif. — International Business Software Inc. plans a November release for a modular program, code-named Net Control, designed to help Mac managers keep track of networked users' configurations. Targeted at Pharos Technologies Inc.'s recently released Status Mac (see story, Page 5), the new package will cost $249 per network zone. □

NEWSPAPER SECOND CLASS

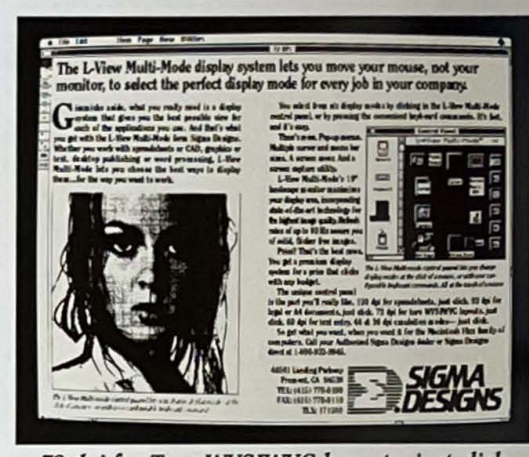
Why pivot when you can click?



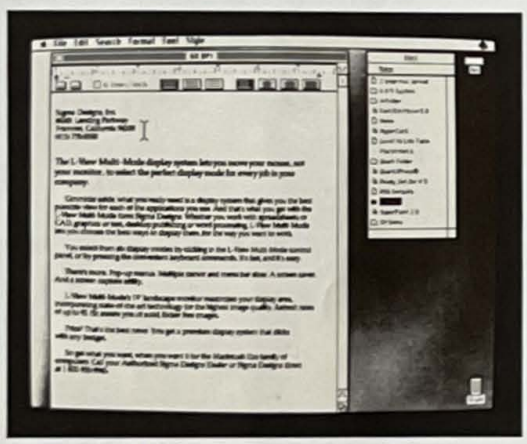
120 dpi for spreadsheets or CAD- just click.



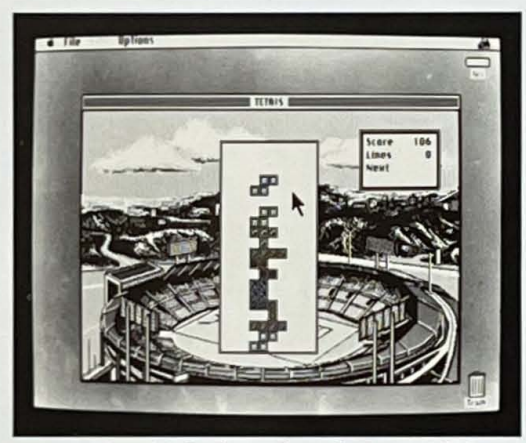
92 dpi for legal or A4 documents- just click.


The L-View Multi-Mode display system lets you move your mouse, not your monitor, to select the perfect display mode for every job in your company.
SIGMA DESIGNS

72 dpi for True WYSIWYG layouts- just click.



60 dpi for text entry- just click.



46 or 36 dpi for enlarged Macintosh 9 or 13-inch screen images- just click, click.

The 19" L-View® Multi-Mode™ display system lets you move your mouse, not your monitor, to select the perfect display mode for every job in your company.

Gimmicks aside, what you really need is a display system that gives you the best possible view for each of the applications you use. And that's what you get with the L-View Multi-Mode from Sigma Designs. Whether you work with spreadsheets or CAD, graphics or text, desktop publishing or word processing, L-View Multi-Mode lets you choose the best ways to display them...for the way you want to work.

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L-View Multi-Modes's 19" landscape monitor maximizes your display area, incorporating state-of-the-art technology for the highest image quality. Refresh rates of up to 92 Hz assure you of solid, flicker free images.

Price? That's the best news. It clicks with any budget.

So get what you want, when you want it for the Macintosh IIxx family of computers. Call your Authorized Sigma Designs Dealer or Sigma Designs direct at 1-800-933-9945.

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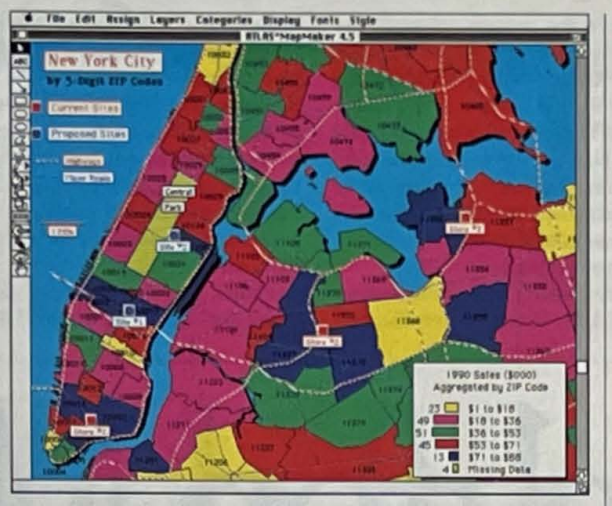

ATLAS★MapMaker 4.5, the latest version of Strategic Mapping's desktop mapping package, offers higher-resolution maps and lets users link items in a database file by ZIP code to its maps.

Strategic advances MapMaker

By Raines Cohen

San Jose, Calif. — Strategic Mapping Inc. this month began shipping ATLAS★MapMaker 4.5, an enhanced version of its desktop mapping software.

Key enhancements include:

▸ **Data analysis by ZIP code.** Users now can import a database of addresses and assign each to a point on the map on the basis of its postal code without resorting to the separate ZIP/ATLAS utility previously required.

The program can aggregate any data tied to a ZIP code and translate ZIP-code data to larger geographic units so that users can get, for instance, total sales by ZIP, state or region. Data points can be displayed as electronic pins or used to color-code regions.

▸ **A scripting language.** MapMaker's Map Command Language lets users control the program via external text files. Users such as the National Oceanic and Atmospheric Administration have developed HyperCard front ends to ATLAS★MapMaker using this feature.

Other features include multiple layers, each with its own data, text and options; resolution up to 10 times greater than in the previous release; data-file compatibility with the IBM PC version; a wider choice of map projections; and a frequency histogram option in legends.

The new version sells for $495, an increase of $100. Upgrades are $95 to earlier buyers but free to owners of ZIP/ATLAS, which was released earlier this year.

"They've definitely made some progress there," said longtime user Kent Hampton, natural gas marketing analyst for Marathon Oil Co. in Houston. "I'm looking forward to taking advantage of the new version's support for a number of digitizing tablets to import proprietary maps of pipeline illustrations and the like." Hampton used previous versions to plot strategy, identify markets and make presentations to management on geographical areas of interest.

Strategic Mapping Inc. is at 4030 Moorpark Ave., Suite 250, San Jose, Calif. 95117; (408) 985-7400. □

To our readers

MacWEEK will not be published Aug. 28 and Sept. 4. During our hiatus, you can still get your weekly dose of Mac news via the MacWEEK News Beat feature on Zmac, Ziff-Davis Publishing Co.'s on-line companion to its two Mac publications, MacWEEK and MacUser. Instructions on how to get on Zmac can be found on Page 58.

Three years ago in MacWEEK

Aug. 25, 1987: "The introduction of system software component MultiFinder two weeks ago casts doubt on the future of another piece, desk accessories. MultiFinder's multitasking capability, which allows users to open and run several applications simultaneously, could replace the need for desk accessories."

In retrospect: DAs are still a part of most Mac users' lives. Developers continue to use the DA format not only for utilities, electronic-mail access and games, but also for productivity tools that sometimes exceed the capabilities of full applications. Doomsayers now say System 7.0, with its Interapplication Communications and user-configurable Apple menu, is the true death knell for DAs. DAs, however, will probably remain with us.

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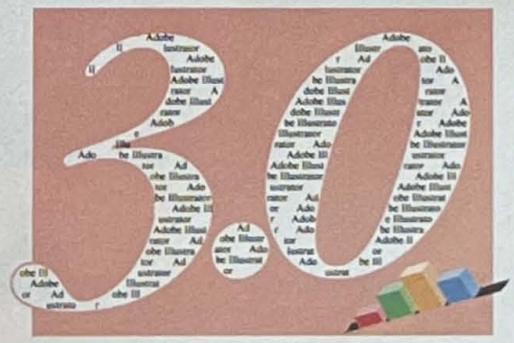

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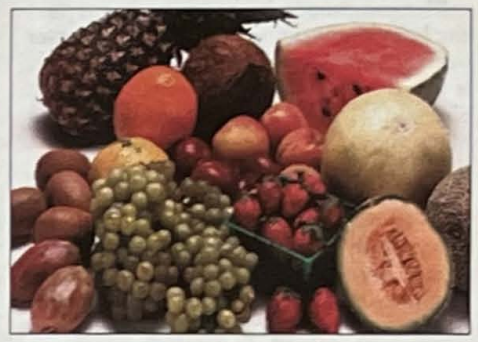

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Pharos tool profiles networked Macs

By Margie Wylie

Cincinnati — Pharos Technologies Inc. this month shipped Status Mac, a new software tool designed to help managers get a handle on growing Macintosh networks.

The program logs system resources such as memory, NuBus cards, SCSI devices, fonts and Startup documents (INITs). The data is collected by a special application called Portable Profiler or through a special Microsoft Mail 2.0 form. The resulting reports are returned to a master database from which the network manager can draw customized reports.

A base package supporting 10 Macs is $799; capacity for additional Macs can be added at $75 per machine or $600 for 10 more Macs.

Beta testers gave the program thumbs up. Bill Monteith, director of information resource management for Armco Inc. of Middletown, Ohio, manages 250 nodes across two states with Status Mac. "The big value to us is to be able to help the New Jersey location here in Ohio," he said. Monteith uses a remote-control program and information he gathers with Status Mac to diagnose conflicts, update software and manage memory upgrades.

Beta-tester Gary Seifert, network coordinator for Connaught Labs of Swiftwater, Pa., said he uses the software to track revisions and screen new applications for viruses on a network of more than 200 Macs. "It gives me a total snapshot of the system," Seifert said.

Along with abundant praise, however, beta users listed several features they would like to see added to the package, including hooks into electronic-mail packages other than MS Mail, serial-number retrieval and more-automatic profiling.

Pharos Technologies is at 4243 Hunt Road, Cincinnati, Ohio 45242; (513) 984-9273. □

DataClub virtual server puts workstation files in pseudo volume

By Margie Wylie

Sunnyvale, Calif. — With one false start behind it, International Business Software Inc. is reintroducing DataClub, its distributed file-sharing software package.

The program, which the company said combines the benefits of a central file server with the flexibility of a peer-to-peer network, is based on a "virtual file server" concept. Shared files physically located on separate Macs appear to network users as part of a single logical volume.

The software distributes its processing tasks among machines on the network and dynamically allocates local disk space for shared use. Files can be moved from one machine to another, but the users' view of the file system remains unchanged. Network administration tasks can be performed from any node.

At the heart of DataClub is a sophisticated distributed database that tracks file access, security and location. Like other software based on a distributed database, such as global naming systems, DataClub faces the challenge of keeping each copy of the database current without slowing down the network, a problem that no single vendor has previously solved completely.

DataClub addresses the problem with an approach that developer Rod MacGregor called "fuzzy consistency. Nodes that are not busy are updated automatically when changes are made to the file system; other nodes are updated when they access the part of the file system that has changed."

MacGregor was also the architect of Soft-PC, the MS-DOS emulation program from Insignia Solutions Inc. of Sunnyvale, Calif.

IBS officials claim an upper limit of 76 DataClub users per volume without performance degradation but said the largest beta-test site to date has 12 nodes.

The program is AFP (AppleTalk Filing Protocol)-compliant, providing standard AppleShare-style security and access privileges for users and groups.

An earlier version of DataClub was scheduled for release in April, but the program was pulled back for a complete redesign. The new, improved version is scheduled for release next month. It will cost $295 for three users and $795 for 10 users.

The company also plans to release 12 to 18 months later a fully relational distributed SQL database server designed to run on DataClub.

International Business Software Inc. is located at 1270 Oakmead Parkway, Suite 314, Sunnyvale, Calif. 94086; (408) 522-8000. □

The desktop Mac with more tha

Tri-Data bolsters Netway, MaxWay lines

By Margie Wylie

Santa Clara, Calif. — Tri-Data Systems Inc. last week announced an FDDI LAN adapter as well as new features and lowered prices for its family of routers and gateways.

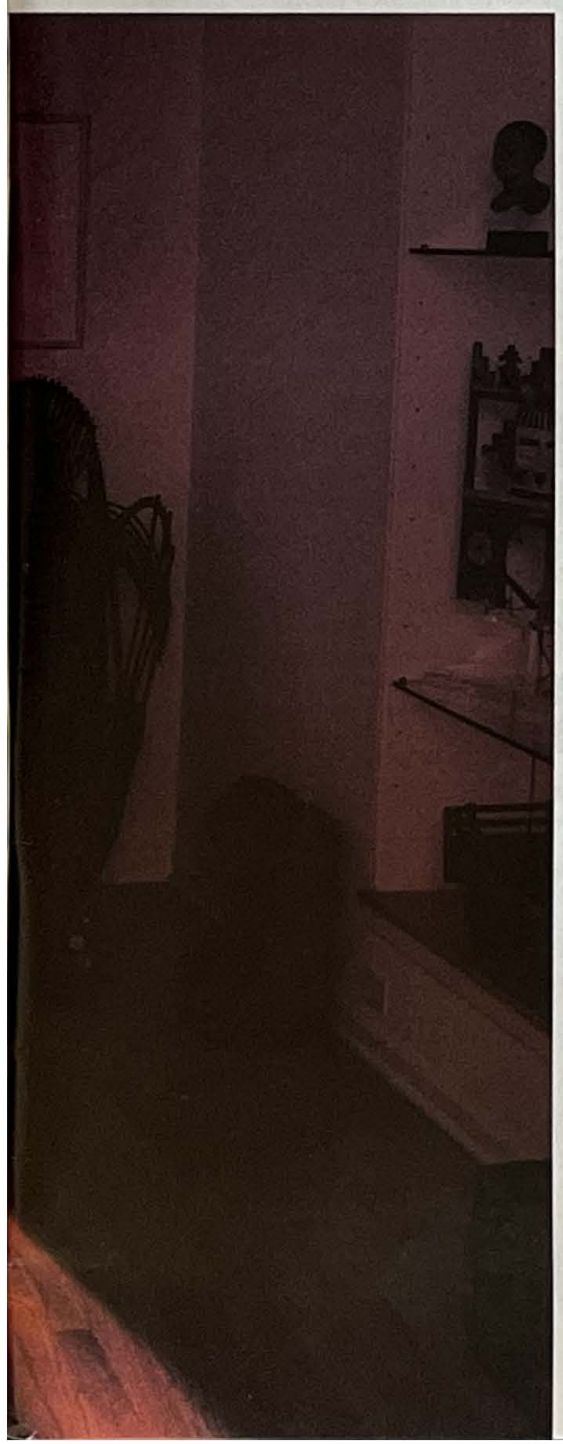
▸ **FDDI.** The company plans to offer separate Fiber Distributed Data Interface (FDDI) adapters for its Netway 2000 Systems Network Architecture gateway and MaxWay 500 LAN router in the second quarter. The cards, still unpriced, will let users access services over an FDDI backbone without requiring fiber-optic cabling to the desktop.

▸ **Additional network support.** New software add-ons for Tri-Data's MaxWay 500 LAN router will support TCP/IP, wide-area links across synchronous dedicated lines and Novell Inc.'s NetWare IPX/SPX. The modules, due next winter, will be $495 each.

▸ **Price cuts.** The entry-level price for MaxWay 500 was reduced $2,000 to $5,495. Prices for the Netway 2000 family, available in 16-, 32-, 64- and 128-session models, range from $4,995 to $14,995. Until year-end, Tri-Data is offering a credit for customers upgrading from Netway 1000 to 2000 gateways.

Tri-Data is at 3270 Scott Blvd., Santa Clara, Calif. 95054-3011; (408) 727-3270. □

intosh for people n one desktop.



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Epson goes for Mac with 11-by-17 inkjet

Torrance, Calif. — Epson America Inc., a leader in the IBM PC and compatible printer market, has begun its assault on the Mac world with a new 300-dpi inkjet printer that can output to 11-by-17-inch paper.

Epson's EPI-4000, priced at $1,999, uses a 64-nozzle inkjet print head and alcohol-based, fast-drying ink to produce plotter-quality output on letter-, legal- and B-size paper.

The printer, shipping now, has Centronics parallel and RS-232C serial interfaces. To use the EPI-4000 with a Mac, users need Freedom of Press, the PostScript-clone software interpreter and device driver from Custom Applications Inc. of Billerica, Mass. The software, regularly priced at $495, is available in a custom configuration for Epson printers at a price of $125 (see related story, this page).

The EPI-4000 offers Hewlett-Packard LaserJet Series II and Epson FX-1050 and LQ-2500 emulation.

The unit carries a one-year warranty.

Epson is at 23530 Hawthorne Blvd., Torrance, Calif. 90505; (213) 539-9140. □

Epson pushes printers with Freedom of Press

By Pamela Pfiffner

Torrance, Calif. — Epson America Inc. is trying to woo Macintosh customers by offering a deal on a popular PostScript- and Type 1-compatible software interpreter with its printers.

Purchasers of Epson's business printers will be able to buy a customized version of Freedom of Press from Custom Applications Inc. of Billerica, Mass., for $125. The special version of Freedom of Press was developed for use with Epson's line of black-and-white and color impact and laser printers.

The offer is good through Oct. 15, although Epson said the deal may be extended.

The customized Freedom of Press differs from the $495 retail version in three key ways: It contains only Epson printer drivers; it supports the Mac Plus, SE and Portable in addition to the SE/30 and II series; and it includes 17 Type 1-compatible URW fonts, compared with the 35 fonts that ship with the retail package.

Additional printer drivers for Freedom of Press may be purchased through a $350 upgrade, which also includes 18 extra fonts. Users may buy the 18 fonts alone for $95.

For customers who buy an Epson printer with Freedom of Press, Epson is offering ParaLink, a serial-to-parallel converter, as an optional alternative to standard serial cables. The converter, developed by San Francisco-based Jonathan Freeman Technology, transmits data at the rate of 57.6 Kbits per second, compared with 19.2 Kbits over the $25 Epson serial cable. As part of the package, ParaLink is priced at $74 from Epson dealers, a savings of more than $50.

As a bonus, customers who purchase the printer and interpreter will be mailed a free printer ribbon or toner cartridge.

Epson also will send a free mouse pad to potential customers who check out the Epson-Freedom of Press combo.

Epson America Inc. is located at 23530 Hawthorne Blvd., Torrance, Calif. 90505; (213) 539-9140. □

Ray Dream conjures up photo realism

Program supports modeling, shading

By Connie Guglielmo

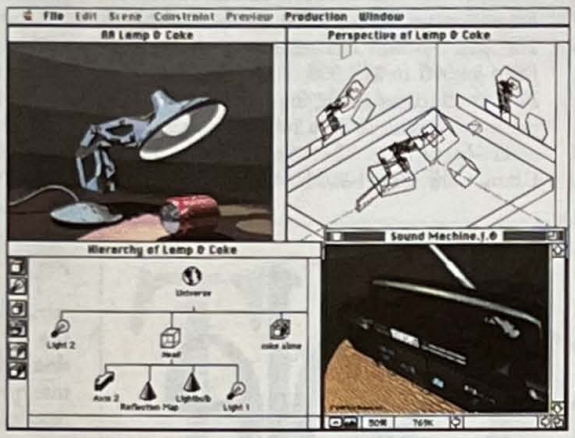
Boston — Ray Dream Inc., a start-up company recently launched by two French programmers, used Apple's booths at the Macworld Expo and at Siggraph '90 to premiere a new program for creating photo-realistic 3-D imagery.

Ray Dream Designer, to ship this fall for $895, is a 32-bit color program that supports:

▸ **Modeling.** The program offers graphical primitives, spline and Bezier curves, editable vertexes and tangents, and grids and templates. Users also can create and refine objects using the lathe and extrusion functions.

Models saved in 3DGF (3-D Geometry File) format can be imported from other Mac applications.

▸ **Shading.** Ray Dream Designer supports Phong shading, texture mapping and anti-alias mapping. Users also will be able to inlay textures using the program's transparency mapping and create bump maps such as grainy textures and self-shadowing effects.


File Edit Scene Constraint Preview Production Window
RR Lamp & Coke
Perspective of Lamp & Coke
Hierarchy of Lamp & Coke
Sound Machine.1.0

To create photo-realistic images, the new Ray Dream Designer lets users light complex 3-D images with multiple sources and view scenes from multiple perspectives. The $895 program will ship this fall.

Specular and diffuse highlights and reflection and transparency levels can be adjusted in real time, according to the company, so users do not pay any processing penalties when creating photo-realistic images.

The program also ships with a library of solids textures that can be modified, including marble, wood and granite. Ray Dream Designer also contains tools that enable users to create new shaders.

▸ **Scene description.** Users can create complex scenes containing thousands of objects and view them in full 3-D perspective from multiple viewpoints. An unlimited number of spotlights can be set to light up a scene.

Rendering can be done in the background under MultiFinder on all or selected objects within a scene. The program also supports batch processing and spooling of large images.

Ray Dream Designer requires a color-capable SE/30 or Mac II machine with a hard drive, 4 Mbytes of RAM, and 32-bit QuickDraw. A demo version with tutorials is $39.95.

Ray Dream Inc. is located at 320 Grand View Drive, Woodside, Calif. 94062; (415) 851-0942. □

Infini-D: Modeling, rendering, animation in 32-bit color

By Connie Guglielmo

Boston — Infini-D aims to be more than a program for creating pretty pictures on the Mac.

Taking an all-in-one approach to 3-D, the software package from Specular International offers modeling, rendering and animation in 32-bit color. The 1-year-old company will ship the software in the first quarter of 1991 for $895, according to company President Adam Lavine.

Infini-D offers:

▸ **Modeling.** Objects can be created using six primitives, or users can create unique objects through the program's orthogonal editor.

▸ **Rendering.** Users can render objects in any form, from wireframes to ray-traced, full-color objects. The program supports flat, Gouraud and Phong shading; multiple shadow and light sources; and reflections and refractions.

Two-dimensional images such as PICT files can be wrapped around an object. The program also supports fractal mapping, bump mapping for creating rough sources and a proprietary Sinusoidal mapping technique that creates the effect of rippling water, according to Specular.

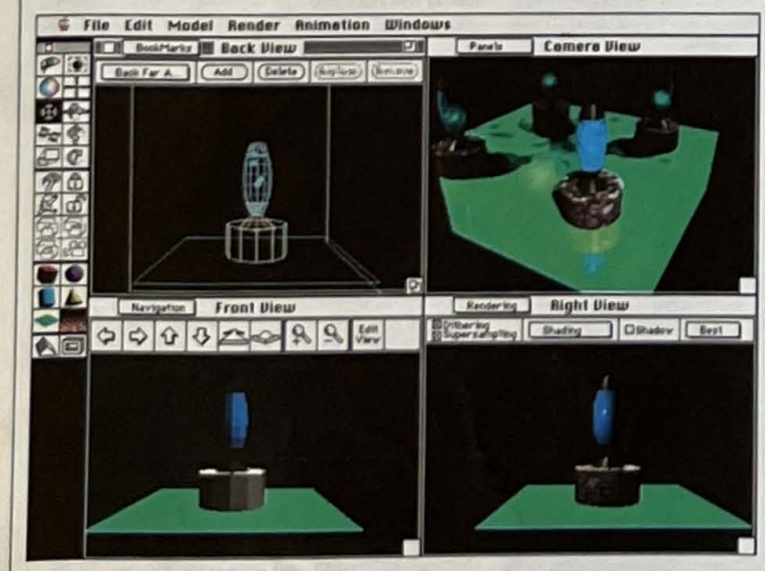
Infini-D ships with surface libraries that can be edited, including glass, plastic, marble, metal and wood. The program also offers tools that let users create their own surfaces. "Unlike other programs, we offer 3-D surfaces, not 2-D surfaces like a PICT that you wrap around an object," Lavine said. "When you create a desk, it's as though you're cutting it out of a piece of wood, so you see the grain inside as well as on the surface."

▸ **Animation.** Through the program's keyframe animation interface, users create the keyframes, or major transitional frames, in an animation sequence and view the frames in a filmstrip format. The program automatically interpolates the frames in between.

Any 3-D object, light source or camera view can be animated. Animated objects can be moved linearly or over spline-based motion paths. Users can, for instance, zoom in on a crystal wine glass and slowly transform it into a marble vase while the overhead light changes color, Lavine said.

Infini-D requires a color-capable Mac SE/30 or II-line machine with 4 Mbytes of RAM, a hard disk, and 32-bit QuickDraw.

Specular International can be reached at P.O. Box 888, Amherst, Mass. 01004-0888; (413) 256-3166. □



Infini-D, a new $895 32-bit color program, combines 3-D modeling, rendering and animation. Images can be rendered in wireframe mode (back view), in flat-shading mode (front view), in Phong-shading mode (right view) and as a ray trace (camera view).

In Focus lets Mac color presentations go out on the road

By John Webster

Tualatin, Ore. — In what some observers are calling a desktop-presentation revolution, In Focus Systems Inc. last week announced a portable device that lets users present Mac-generated color images independently of the Mac.

Called LiteShow II, the 4-pound presentation system is scheduled to ship in October for $1,995. In Focus software lets users capture and store screen images created in any design program, then add simple animation and effects such as wipes.

Used with the 5000CX PC Viewer, a 4,913-color LCD projection panel that In Focus also announced last week, LiteShow II permits presentations with more colors than any previous panel. The previous limit was 512 colors provided by the Proxima Data Display VersaColor projection panel from San Diego-based Computer Accessories Corp. (see MacWEEK, April 3).

The 5000CX PC Viewer is available now for $5,995.

"Liteshow II might be the breakthrough people are looking for in presentations," said Stephen Rogers, president of Beyond Software Inc., a Portland, Ore.-based multimedia production company.

LiteShow II can display images up to 640 by 480 pixels in 256 simultaneous colors from a palette of 256,000. It is compatible with DOS and OS/2 as well as Mac formats.

The device contains 512 Kbytes of memory, a 1.44-Mbyte floppy drive and an additional slot for a SCSI adapter or hard disk. It works with Apple and third-party NuBus graphics cards that drive 13-inch color monitors.

In Focus Systems is at 7770 S.W. Mohawk St., Tualatin, Ore. 97062; (503) 692-4968; (800) 327-7231. □

For the Record

MacWEEK's Aug. 14 issue gave incorrect prices for MacToken, EDI Communications Corp.'s token-ring network diagnostic tool. The new release, Version 2.0, costs $2,000; Version 1.0 was $1,500.

Also in the Aug. 14 issue, we erroneously identified a new charting package from Visual Business Systems Inc. The program's correct name is GraphMaster.

In the Aug. 7 issue, MacWEEK said Broderbund Software Inc.'s BannerMania ships with Adobe Type 1 fonts. In fact, the fonts included with the program are in a proprietary format, although Type 1 fonts can be imported.

In the credits to our font comparison of July 31, Kathleen Tinkel's name was misspelled.

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BPA

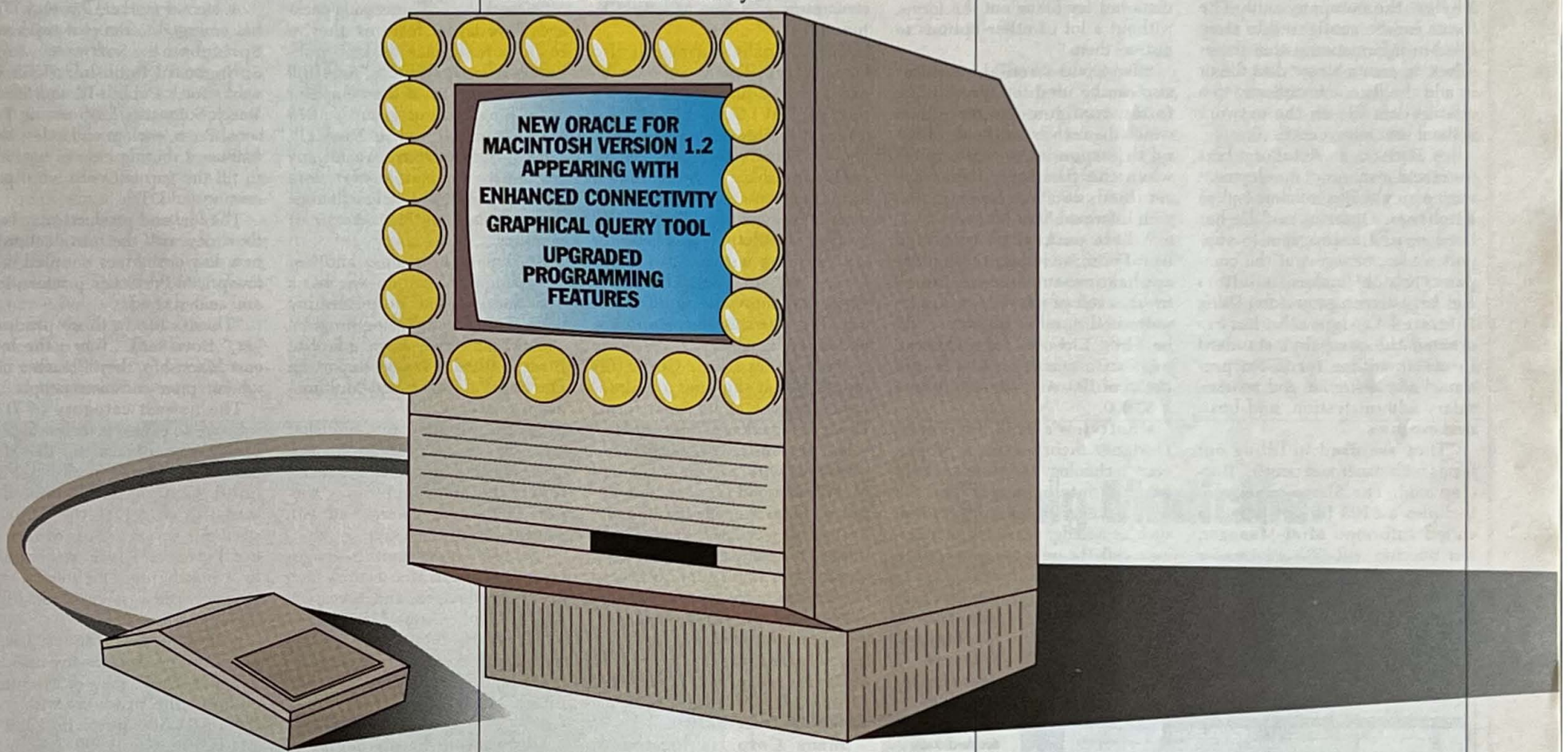
The Mac SQL Sequel

The first SQL database for Macintosh has enhanced connectivity and a new graphical Query Tool.

The first version of ORACLE for Macintosh was a big hit. Industry analysts gave it a thumbs up. Thousands of users gave it their support. And InfoWorld Magazine gave it Product of the Year.

Now Oracle announces ORACLE for Macintosh Version 1.2, with enhancements for both end users and developers.

Improved connectivity options make it even easier to access corporate data on servers, minis and mainframes. Version 1.2 supports virtually any network. Including Async, Apple's MacTCP, Novell's TCPort, Alisa's TSSnet, DCA's MacIRMA 3270 and Tri-Data's Netway.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Forms

From Page 1

by Informed Designer, the high-end forms-design program Shana released earlier this year. The stand-alone applications, which Shana calls "autoforms," can incorporate any of the features supported by the $295 Informed Designer, including error checking, pop-up choice lists, default values, lookups and 160 built-in functions.

Because they incorporate most of the Designer program except its high-resolution drawing environment and data-manipulation capabilities, autoforms will not be small. A typical form will be 400 to 450 Kbytes, the company said. The forms can be configured to store filled-in information within themselves, to create a new data file or to add the data automatically to a central data file on the network without user intervention.

Joe Buccino, an AutoForm beta tester and manager of development engineering at Electrohome Ltd. in Kitchener, Ontario, said he has been using the program to support senior managers at the company, which makes monitors and large-screen projectors. Using Informed Designer, he has recreated the company's standard forms, including forms for personnel administration and reviews, salary administration, and business expenses.

"They are used to filling out forms with paper and pencil," Buccino said. The Shana series also includes a $195 fill-out program called Informed Mini-Manager, but Buccino said, "It's a lot easier for them to use a program that's just for filling out the forms, without a lot of other options to distract them."

Shana said stand-alone forms also can be used for surveys. The forms, configured to store data within themselves, can be distributed to respondents on floppies; when the filled-out forms are returned, data can be extracted with Informed Mini-Manager.

A base package of Informed AutoForm, including the builder application and license for 10 users, each of whom can use an unlimited number of forms, will be $149. Licenses for additional users are available for $1 per user in lots of 100. An unlimited license is $3,000.

▸ **Softview's** $279 if:X Forms Designer incorporates a proprietary technology the company calls graphics intelligence. When the user makes a change to the form, such as adding, removing or resizing a cell, the program automatically responds by moving and resizing remaining cells (see MacWEEK, June 12).

The company last month also launched if:X Forms Solutions, a new series of stand-alone interactive WYSIWYG equivalents for standard business forms (see chart above). The electronic templates, each containing several related forms, incorporate such MacInTax-derived features as automatic background calculations and updates with linking within and across forms, pop-up itemization windows, and automatic error checking. Windows 3.0 versions are under development.

Meanwhile, Claris Corp. this month began shipping a maintenance release of its Smartforms Designer package. The update, called Version 1.1.v.2, solves some problems with System 6.0.5 and MultiFinder and improves the output of large Encapsulated PostScript files created from TIFF images, the company said. The new version has been sent to Claris' site-license accounts and is available to other users on request.

Other contenders in the Mac forms market include Power Up Software Corp.'s $179.95 Fast Forms 2.0 and Adobe Systems Inc.'s $395 TrueForm 2.0.

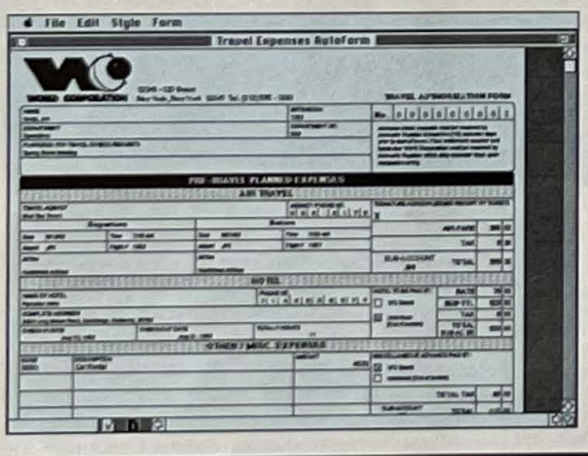
Shana Corp. is located at Advanced Technology Center, 105, 9650 — 20 Ave., Edmonton, Alberta, Canada T6N 1G1; (403) 463-3330.

Softview Inc. is located at 1721 Pacific Ave., Suite 100, Oxnard, Calif. 93033; (805) 385-5000; (800) 622-6829. □

Softview's Forms Solutions series

Each product includes several related stand-alone forms

PRODUCT	PRICE	AVAILABILITY
if:X Business Expense Reports	$79	Now
if:X DOD Expense Reports	$79	Now
if:X GSA Expense Reports	$79	Now
if:X SF-171 Application for Federal Employment	$49	This week
if:X Personal Tax Analyst	$79	This week
if:X Home Loan Assistant	$99	Sept. 9
if:X Payroll Tax Assistant	$149	Sept. 9



With Shana's Informed AutoForm, forms such as this travel-expense form can be distributed as stand-alone, double-clickable applications. The stand-alone form can be configured to send the data directly to a central server.

DTP

From Page 1

Clara, Calif. "We view it as a market that has matured. It's clearly not where the excitement is these days."

The holdups. Analysts pointed to a number of reasons for the recent stall.

As word processing programs have added features that once were DTP's exclusive domain — column formats, typographic controls and graphics — boundaries between the two categories have blurred. That has led users to turn to word processors for some basic publishing needs, some analysts said.

"Now that word processing packages have layout features, they've really pushed back desktop publishing sales into offices," said Bill Clinton, director of the computer publishing systems group at BIS CAP International in Norwell, Mass. "Before, there wasn't any alternative for people who were producing even simple newsletters; they had to buy PageMaker or Ventura."

Market saturation is another explanation. "Everyone who has a Mac and wants to do publishing has a desktop publishing program already," said Tony Bove, editor of Bove & Rhodes Inside Report on Desktop Publishing and Multimedia in Gualala, Calif.

Several experts cautioned that sales figures for page-layout programs alone don't necessarily reflect the entire publishing picture. "Publishing doesn't end with page makeup," Bove said.

"Several components — page-layout programs; hardware, such as output devices; and accessory products and tools, such as fonts — make up the total desktop publishing market," said Ash Jain, editor and publisher of the Macintosh Market Report in Irvine, Calif.

"Page layout barely begins to scratch the surface of what desktop technology can do for publishing," agreed Pam McQuesten, marketing manager for publishing at Apple. "If you expand your concept of what publishing is, that's where you see the growth."

Room for growth. The page-layout field is still healthy enough to support three identifiable market segments, each of which is poised for new growth, experts said. While the DTP revolution may have lost its initial sizzle, a steady regeneration is definitely under way.

The original players — Aldus PageMaker; QuarkXPress; and Letraset's Ready,Set,Go! and its successor, DesignStudio — appeal to the broadest market segment. They now are courting the high-end graphics community with links to pre-press systems as well as better color and typographic controls.

These high-end capabilities, experts said, will open up new worlds to traditional DTP products. "Pre-press is the next revolution in desktop publishing," said David Pincus, president of New York-based Microcomputer Publishing Center Inc.

"The market looks more promising than ever, as several pieces of the color puzzle are being made available and the integration of video technology as a component of electronic publishing is coming into play," Jain said.

A second market, low-end DTP, has emerged in the past two years. Springboard Software Inc.'s Springboard Publisher II, Timeworks Inc.'s Publish-It! and Silicon Beach Software's forthcoming Personal Press, each priced at less than $400 and touting ease of use, aim to fill the gap between word processing and DTP.

The low-end products may have their day with the introduction of new low-cost Macs coupled with low-priced PostScript printers, several analysts said.

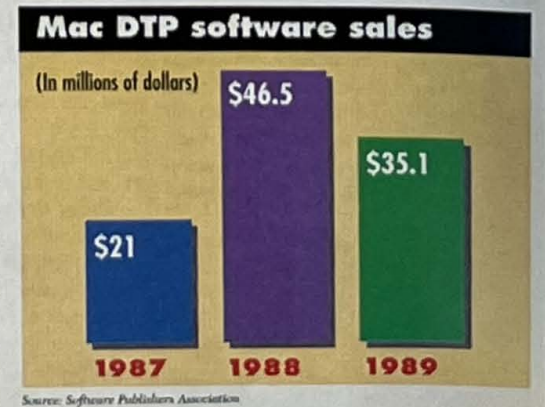
"There's life in those products yet," Bove said. "When the low-cost Macs ship, they'll reach a new market: price-conscious people."

The newest category of DTP software to evolve is technical publishing. FrameMaker for the Macintosh and Ventura Publisher, Macintosh Edition, tossed their hats into the ring just this year. A spruced-up version of Interleaf Publisher, which was crippled by a poorly implemented Macintosh interface, is rumored to be in the works.

According to Dataquest Inc., a market research company based in San Jose, Calif., sales of Macintosh composition products will grow from 131,500 units in 1989 to 144,600 units in 1990, largely on the strength of technical-publishing products. "FrameMaker's functionality surpasses anything currently available," said Jennifer Mitchell, a senior Dataquest analyst.

"American business publishes more than the publishing industry does," said McQuesten. "Every corporation does publishing, and it's moving to a desktop platform." □

Pamela Pfiffner contributed to this report.



FreeHand

From Page 1

recently announced Illustrator 3.0, due next month (see story, Page 31).

FreeHand 3.0 users can expect:

▸ **An improved interface.** Sources said that development efforts have concentrated on making the program "even easier to use than MacDraw." Besides a redesigned toolbox, dialog boxes have been streamlined. Graphical style sheets, for instance, let users name and specify fill, line and halftone settings.

▸ **Speed.** Addressing a major complaint with FreeHand 2.0, the new version offers faster screen redraw.

▸ **Text.** FreeHand 3.0 provides more on-screen manipulation of type, including a zoom text feature that creates a 3-D effect by adding drop shadows with gradiated fills to text. By supporting Adobe Type Manager, it now lets users convert type to editable outlines.

▸ **A layer window.** Users will be able to select from a list which layers of a drawing they want active.

Aldus also is boosting the program's color-handling capabilities, making it easier to define colors with a new color toolbox. In addition, users can call up grids for precision drawing.

"I was most impressed by the fact that Aldus spent its time building a design tool," said one user who had seen the program. "Instead of crossing into the area of desktop publishing, like Illustrator 3.0 seems to do, FreeHand 3.0 is true to its origins as a drawing program."

There was speculation earlier this month that FreeHand 3.0 had slipped behind schedule because a recent beta version had been recalled. Contrary to rumors that it had been sent back to the drawing board so Aldus could beef up the feature set after previewing Illustrator 3.0, sources said that FreeHand 3.0 was recalled because it was an internal testing version not meant for distribution. □

dBASE

From Page 1

applications created with the industry-standard dBASE language directly from the Mac, with little or no code conversion.

Ashton-Tate plans several subsequent releases that are to culminate in a version that adheres to Apple's Mac interface guidelines, but the program currently has no tools for creating standard Mac applications.

Users can, however, work from the infamous dBASE dot prompt to move through data or modify DOS applications running on the Mac. While the program includes the dBASE language, compiler and debugger, it lacks other dBASE development tools, including the Control Center user interface, a dBASE IV feature much touted by the company. Other missing tools include the PC version's application generator; forms, report and label designers; query by example; and SQL capabilities.

The program may interest managers of Mac and (mostly) PC networks, but at big Macintosh installations it left them yawning in the aisles. "We'd like somebody to come out with a terrific database for the Macintosh that's easy to develop in ... but this isn't it," said Jack Albright, who helps manage a 400-node Mac network for Du Pont of Wilmington, Del.

Despite not being Maclike, industry insiders agreed that the product is a step in the right direction for troubled Ashton-Tate. "There are many more people running Macs where there are PCs with dBASE than there are Macintoshes with databases," Green said. "Ashton-Tate can get more sales by appealing first to the PC market. In the past, they listened to Mac zealots and sold zero."

dBASE IV Version 1.1 shipped this month, but pricing and availability for the Mac product have not been announced.

Ashton-Tate Corp. is located at 20101 Hamilton Ave., Torrance, Calif. 90509-9972; (213) 329-8000. □

CPUs

From Page 1

thirds as large. "It looks like an Apple IIGS," several sources said.

▸ **Display.** The IIsi's color circuitry is essentially the same as that found in the IIci. The IIsi supports the same monitors as the IIci, in addition to two new monitors Apple will introduce with the machine.

▸ **Processor.** The IIsi reportedly sports a 20-MHz 68030 processor, which delivers about six times the performance of the lowly Macintosh Plus. The IIsi will accommodate up to 17 Mbytes of RAM.

▸ **Expansion.** The IIsi has a Processor Direct Slot (PDS), but the low ceiling of the machine prevents most existing cards from fitting vertically. Apple will offer NuBus and SE/30 bus adapters to allow cards to lie horizontally across the top of the motherboard. The NuBus adapter also may include a socket for the floating-point math coprocessor not present on the main board.

In a newsletter, Apple last month warned card developers not to rely on the SE/30 timing signals and form factor in their SE/30 PDS cards.

▸ **Audio.** The Mac IIsi will include an eight-bit audio digitizer and a microphone jack on the back. A microphone is expected to be bundled with both the IIsi and the LC. "This opens up a whole new market for sound-editing software, and it will increase the number of applications that support sound," said one developer.

The LC. The Mac LC, about 1.5 inches shorter than the IIsi, will not be as expandable as its bigger, faster sibling. It reportedly has a 20-MHz 68020 and built-in eight-bit color, runs at least two times faster than a Mac Plus, and can fit up to 9 Mbytes of RAM on the motherboard.

It is expected to have a PDS, but space, power-supply and CPU-performance considerations may prevent high-end cards, such as 24-bit color cards, from being viable expansion options. The LC, however, should work well with networking cards and Apple IIe emulation cards.

▸ **New monitor.** Apple's forthcoming 12-inch diagonal, 512-by-384-pixel display is 40 pixels taller than "standard" Mac IIci video output. The height difference may cause problems in some applications, notably in games and other applications that assume a specific screen size. The monitors, designed by Mitsubishi, will be priced at about $400 for a monochrome model and about $700 for a color model, $300 less than the current price of Apple's 13-inch color monitor.

▸ **Software.** New system software will take advantage of the audio and other capabilities of the new CPUs. System 6.0.6 will include Apple's Macintosh Audio Compression and Expansion software and a Control Panel device (cdev) to digitize sounds. A HyperCard 2.0 digitizing external also will be supplied, sources said.

Apple will ship system software and tour disks for the new systems on high-density 1.4-Mbyte disks. The manuals for HyperCard no longer will be included; only an introductory "getting started" manual will be in the box, sources said.

The Classic. The Mac Classic will sport a unique rounded bezel, unlike previous Macs. The 8-MHz 68000-based monochrome Mac can fit only a 1-inch hard disk and will not include an expansion slot. □

dBASE data enters 4th Dimension

A $99.99 add-on module for ACIUS Inc.'s 4th Dimension that converts data to and from the dBASE data format is scheduled to ship early next month.

dBinterface Rapid, developed by Chatham Township Data Corp., supports Ashton-Tate's dBASE II, III, III Plus and IV formats; Fox Software Co.'s FoxBASE+ and FoxPro formats; Nantucket Corp.'s Clipper and McMax; and related formats from several other programs.

According to Chatham, the new utility can move data in one step at a rate of more than 1,000 records per minute. The program was first announced nearly a year ago (see MacWEEK, Oct. 17, 1989).

Chatham Township Data Corp. is located at 31 Birchwood Road, Denville, N.J. 07834-1224; (201) 586-0700.

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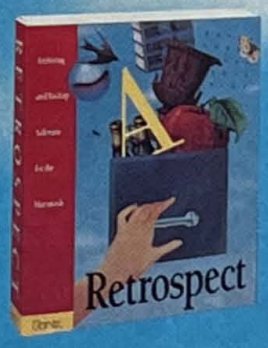

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Bravo! line gets facilities software

Schlumberger CAD integrates database

By Rochelle Garner

Ann Arbor, Mich. — Schlumberger CAD/CAM's MacBravo! Facilities, a CAD package for laying out large buildings and campuses, is now shipping, the company announced this week.

Originally introduced in June of last year, Schlumberger's $4,900 software combines an integrated database, referenced overlays, drafting, and layout and modeling tools specifically for building construction and layout.

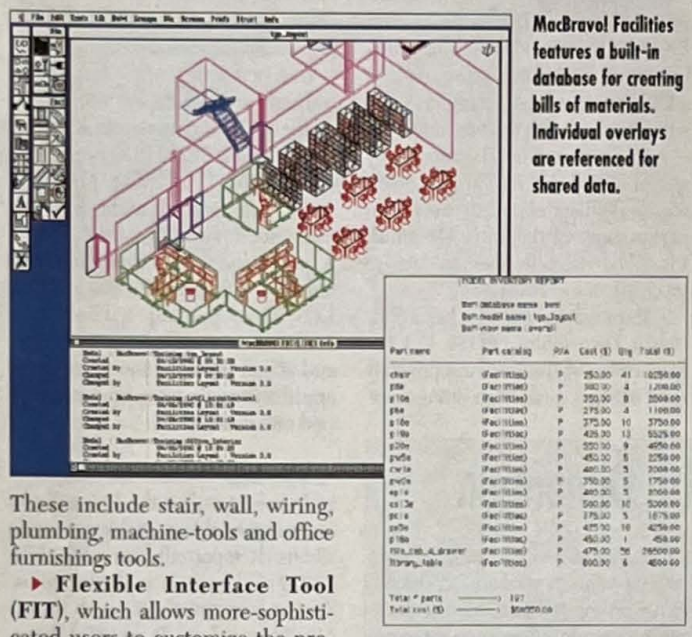
The new software provides:

- **An integrated database** that lets users generate bills of materials for any graphical component. Bills of materials can be queried from menus or from user-created SQL routines.

The database will highlight information associated with a selected object, or it can display all objects that contain the desired information.

Report options include an "exploded" format (detailing the number and location of specific items within the facility, such as windows and doors) and an "imploded" format (describing the components grouped in a specific assembly).

- **Referenced overlays** that let users work on different aspects of the facility, such as electrical wiring or plumbing. Shared information is hot-linked between the independent layers. A "visual reference tree" provides a flow chart of how overlays are related.
- **Layout tools** that have been optimized for facilities layout.



MacBravo! Facilities features a built-in database for creating bills of materials. Individual overlays are referenced for shared data.

These include stair, wall, wiring, plumbing, machine-tools and office furnishings tools.

- **Flexible Interface Tool (FIT)**, which allows more-sophisticated users to customize the program to their specific needs. FIT capabilities include Mousestroke symbol recognition. With Mousestroke, pressing the Option key while using the mouse to draw a "c" over an object will, for example, center that object on the screen.
- **3-D modeling capabilities**, including the capability to construct models using geometry as well as extrusion. And because facilities components such as walls, ducts and doors have associated height, the program will automatically generate the third dimension to create isometric drawings, plan views and multistory buildings.

MacBravo! Facilities requires a Mac II with 8 Mbytes of memory and an 80-Mbyte hard drive.

Schlumberger CAD/CAM can be reached at 4251 Plymouth Road, P.O. Box 986, Ann Arbor, Mich. 48106; (313) 995-6000. □

Now fixes bugs in utilities package

By Henry Norr

Portland, Ore. — Now Software Inc. this month began shipping Version 1.05 of Now Utilities, its $149 collection of tools for enhancing and customizing the Mac system.

The new release fixes all known bugs in Version 1.0, which was introduced in April, and makes the 12 Now programs more tolerant of bugs in other software, according to the company.

In particular, the rewritten version of StartUp Manager, a Startup document (INIT) that lets users manage other INITs, no longer renames the INITs to control their loading order; the original version caused problems with INITs that did not work when renamed.

Other programs in the package that have been rewritten include Persistence, a utility that controls the display of INIT icons during startup, and RearWindow, an INIT that lets users move or copy files from background windows in the Finder without moving them to the foreground.

Other highlights of the Now package include a screen clock with alarms; a program that provides a pop-up version of the menu bar and adds hierarchical submenus to the Apple menu; a utility that makes it possible to change an application's MultiFinder memory allocation as the program is launched; and a print previewer.

The upgrade is being sent free to registered users, Now said. Unregistered owners can qualify by calling the company or sending in their registration cards.

Now Software Inc. is located at 520 S.W. Harrison St., Suite 435, Portland, Ore. 97201; (503) 274-2800; (800) 237-3611. □

AT&T plans AppleTalk module for Datakit II VCS WAN data switch

By Margie Wylie

Boston — Targeting major businesses that need high-performance wide-area connectivity, American Telephone & Telegraph Network Systems plans to release an AppleTalk routing and management option for its Datakit II Virtual Circuit System in October.

Originally created by AT&T's Bell Labs for internal use, the Datakit II VCS is a "data switch" used to connect widely dispersed, mixed networks. The device accepts plug-in boards that route and bridge numerous network communications protocols — including DECnet, XNS (Xerox Networking Services), X.25, TCP/IP and Burroughs Poll Select — over different types of connections, including dial-up; dedicated lines such as T-1; X.25 connections; and Digital Equipment Corp.'s SDLC (synchronous data-line control) links.

The company's new AppleTalk option, called Local Area Network Access Module (LAM), will let network administrators connect AppleShare networks directly to the VCS router backbone via AppleTalk or Ethernet. The LAM Manager option also lets administrators manage the AppleShare router using AT&T's Unix-based StarKeeper console.

AT&T sells and installs customized configurations directly. Prices range from $50,000 to $2 million, the company said.

AT&T Network Systems is at 475 South St., Morristown, N.J. 07962-1976; (201) 606-2000. □

Mac eases 'The Hard Way'

By Connie Guglielmo

New York — There's a new breed of filmmakers in Hollywood who are as comfortable behind the mouse as they are behind the camera. And the result is a revolutionary new way of making movies using the Mac.

On the set of "The Hard Way," a Badham-Cohen Group production due this Christmas from Universal City Studios Inc., John Badham, the director, and David Sosna, first assistant director, use a HyperCard stack that tracks many of the logistics required to put together a film.

"I did this stack for me, so I wouldn't have to stay up every night logging scenes and figuring out the next day's shooting schedule," said Sosna during a break in filming last month in a former armory in the Bronx.

The stack, which was loaded on a Mac IIcx hooked up in Badham's trailer on the set, contains the storyboards, which are black-and-white sketches of each scene. The 170 sketches were hand-drawn and then scanned into the stack as TIFF files.

To the storyboards, Sosna added information about the scene, camera angles, which actors or stunt doubles appear in the scene, and which crews are needed to shoot.

The stack, which is consulted daily — and even sometimes between takes — can be sorted in a number of ways. In Continuity mode, the stack provides a chronological progression through the film. By flipping through the cards, Badham, Sosna and even the actors can get a sense of how the movie will play.

"As an actor, having a printout of the storyboard is a useful tool, because we don't shoot the movie in chronological order," said James Wood, a Mac IIcx user who co-stars in "The Hard Way" with Michael J. Fox. "I can glance at the LaserWriter output, see what scene came before it and say, 'Oh, yeah; I ran up the steps, so now I should be out of breath.' "

The stack also can be sorted in the sequence in which scenes will be filmed. Once a shot is completed, Sosna marks it complete through a toggle switch on the card. Sosna can then print out a subset containing only the scenes left to shoot.

"There's a perception in the movie industry that my job is undoable by machine, that only the human mind could handle all the variables," Sosna said. "Well, this [stack] changes all that." □

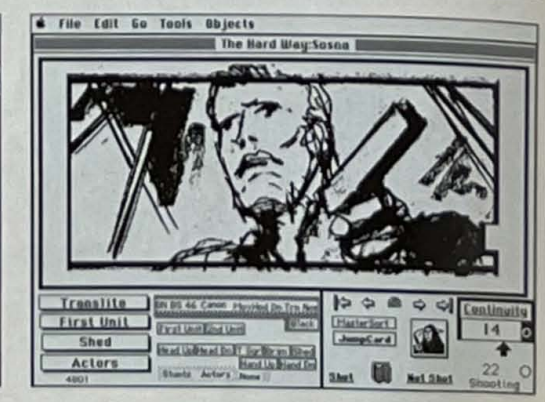
Making movies the Mac way

The Mac does double duty in "The Hard Way." In addition to its role behind the scenes, the Mac is featured in several scenes throughout the film. Badham, an avid Mac user and one of the first to "Mac-ize" his offices at Universal, also featured the Mac in his last film, "Bird on a Wire."

Apple has only a few rules about the use of its computers in films, said Daniel Lewis Paul, entertainment marketing manager for Apple. He gets 15 to 20 calls per week from filmmakers who want to put the Mac on the set.

"The Mac cannot be the cause of death — in a hospital scene, for instance, where the computer is hooked up to a patient and somebody switches it off," Paul said. "Also, we will not allow the Mac to explode. In some films, they want to blow up a computer, and we say, 'Go ahead and use a PC clone.' Our goal is to show our products and Apple in the best light." — *By Connie Guglielmo*

David Sosna, first assistant director, put together a HyperCard stack with storyboards for "The Hard Way," a new film directed by John Badham.



Each card contains a sketch of the scene along with such information as which actors are in the shot and which camera crew will film the scene.

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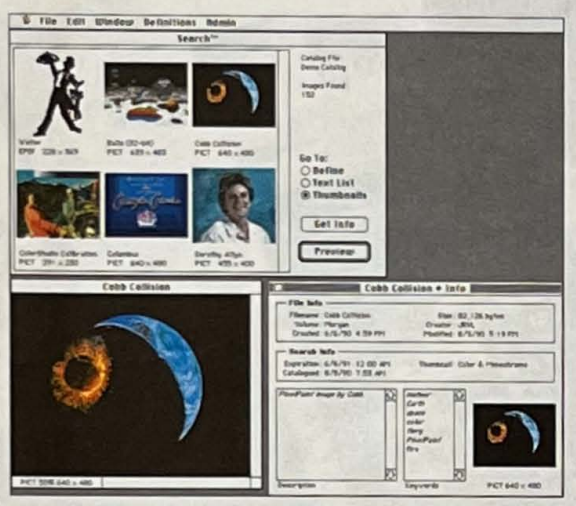
New Search to organize art files

Multi-Ad program to ship in late fall



Multi-Ad Search creates a catalog of electronic art. After users perform a search, it shows thumbnail images of possible matches (top), and lets users preview an image (bottom left) and view information about it (bottom right).

By Carolyn Said

Boston — Multi-Ad Services Inc. is planning a new program to help users organize and manage their electronic art files.

To ship in November for $199, Multi-Ad Search lets users catalog Mac graphics in a database capable of tracking up to 32,000 separate images. The graphics can be searched by keyword, file name, file type, volume or date.

The program supports MacPaint, PICT, TIFF, RIFF and Encapsulated PostScript formats. To jog their memories, users can view thumbnail images in 32-bit color, full gray scale or in dithered black and white on a monochrome monitor.

Multi-Ad Search can catalog users' existing disks automatically by file type, volume and file name, although users must manually enter keywords and descriptions. The company will include keywords and descriptions with its electronic clip-art compendiums and will offer other image suppliers a free utility that lets them add Multi-Ad Search keywords and descriptions.

Beyond acting as a catalog, Multi-Ad Search will be able to place images into some applications directly via a Copy Reference command. Multi-Ad Creator and QuarkXPress are currently the only applications supported. Multi-Ad hopes to persuade Aldus and other developers to incorporate its document-referencing approach.

The Search catalog can be stored on a server and simultaneously accessed by multiple users. Images from several volumes can be listed in a single catalog, so users can scan multiple CDs and hard disks with a single query.

Multi-Ad Services Inc. is located at 1720 W. Detweiller Drive, Peoria, Ill. 61615-1695; (309) 692-1530. □

DataViz adds graphics translators, PC control option to MacLinkPlus

By Margie Wylie

Boston — Graphics translators and control from IBM PCs and compatibles, said DataViz Inc., are the two biggest enhancements in Version 4.5 of its MacLinkPlus file transfer and format-translation package.

In addition to translators previously available, Version 4.5 can convert graphics files generated by several MS-DOS applications to PICT format. Newly supported DOS file types include CGM files from Harvard Graphics and Lotus Freelance Plus, WPG WordPerfect graphics files, IMG and GEM Ventura Publisher files, and AutoCAD DXF files. In addition, files from WordPerfect Version 5.1 now can be translated to standard Mac word processing formats with embedded graphics intact.

Aside from a PICT-to-PC Paintbrush translator, graphics can be translated only from PCs to Macs.

Text translators for MacWrite II and Microsoft Works (PC) are also in Version 4.5, which is available now.

PC users can now fully control the transfer and translation process, whether via serial cable or over a network, the company said. In the past, the process could be controlled only from the Mac.

The company also announced that its translation technology will be used in the new Ventura Publisher, Macintosh Edition; and in Taste, a word processor forthcoming from DeltaPoint Inc.

Version 4.5 of MacLinkPlus/PC, for serial cable transfer, costs $199, including a cable. MacLinkPlus/Translators, for use with MacWrite II or the Apple File Exchange utility on files transferred via network or SuperDrive, sells for $169. Customers who bought either package in the past 90 days can upgrade for $15; other registered users pay $45.

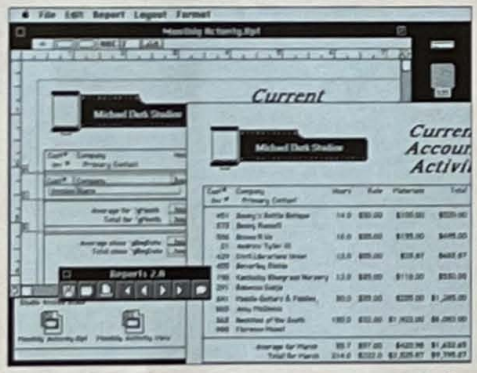
DataViz Inc. is located at 35 Corporate Drive, Trumbull, Conn. 06611; (203) 268-0030. □

More support ahead

Even as they announced shipments of Version 4.5 of MacLinkPlus/PC and MacLinkPlus/Translators, officials of DataViz Inc. said another upgrade to the file transfer and format-translation package is due in early October. That release, Version 4.5.2, will add support for internal structures and layout of translated documents, no matter what the source, so that users will be able to bring over specialized text such as a table from a spreadsheet without losing the layout.

Tired of waiting for HyperCard 2.0, Nine to Five ships new Reports

By Raines Cohen



Reports 2.0 from Nine to Five Software includes a graphical report editor that can create templates and preview formats. It works with all current versions of HyperCard.

Boulder, Colo. — As Apple's HyperCard 2.0 slips further behind schedule, stack and utility developers dependent on the upgrade are becoming desperate. Some have said that they are laying off employees, but others are "downgrading" their stacks and upgrades so HyperCard 1.x users don't have to wait to buy them.

Nine to Five Software Company Inc., located here, is taking the latter approach. Last week, the company announced Reports 2.0, a rewrite of its package of external commands (XCMDs) that give HyperCard report-generation capabilities. The new release, due later this month at $149.95, makes HyperCard behave as if it were a "high-priced, high-performance database system," the company said.

Reports 2.0 users employ a layout-editor application to define mail-merge letters, labels, forms, and complex row-and-column reports. Stacks can then call on Reports externals to print to paper or screen.

The new version also includes MasterView, an external that adds spreadsheet-style database viewing to stacks, and an alternative script editor that includes a pop-up menu listing valid commands and handlers.

In addition to HyperCard, the company said that the new version will support Spinnaker Software Corp.'s Plus, Silicon Beach Software's SuperCard and other HyperCardlike host environments.

The original Reports was published by the TENpointO division of Mediagenic. Owners of previous versions of Reports; TENpointO's Focal Point, City to City and Business Class; and Intuit Inc.'s Quicken can upgrade for $60 for a limited time. Runtime and site licenses are available.

Free upgrades to a HyperCard 2.0-compatible version of Reports 2.0 will be supplied free to buyers. "When HyperCard 2.0 is actually on the dealers' shelves, we will immediately send our customers a new version that supports it," said Michael Haas, president of the company.

Nine to Five Software Company Inc. is located at 3360 Mitchell Lane, Suite 105, Boulder, Colo. 80301; (303) 443-4104; (800) 292-5925. □

Mastersoft brings Word for Word to Mac

By Henry Norr

Scottsdale, Ariz. — Mastersoft Inc. recently became the second major vendor of format-translation software for IBM PCs to move into the Mac world.

Word for Word/Mac Version 1.2, the product's first retail release, supports more than 25 distinct formats or a total of more than 600 possible conversion combinations. According to the company, the $149 utility is capable of preserving a long list of layout and formatting features (if supported by the target format), including columns; headers and footers; footnotes and endnotes; left, right and centered tabs and alignment; hard page breaks; hidden text; and superscripting and subscripting.

Bit-mapped and PICT images are preserved when files are converted among all Mac word processors except Ashton-Tate Corp.'s FullWrite Professional (see chart). Single files or the contents of a folder can be marked for conversion. New names, consisting of the original file name plus an extension representing the target format, are assigned automatically to converted files.

Claiming a translation rate of 3 pages per second, Mastersoft called Word for Word/Mac "the fastest in its class." Competitors in the field include DataViz Inc.'s MacLinkPlus, which for years had the field to itself, and Software Bridge Mac, a new entrant due this month from Systems Compatibility Corp. of Chicago (see stories, this page and July 31).

Word for Word/Mac is a standalone application. Unlike Software Bridge Mac and the Translators version of MacLinkPlus, it does not use the Apple File Exchange utility.

Mastersoft is at 6991 E. Camelback Road, Suite A-320, Scottsdale, Ariz. 85251; (602) 277-0900. □

Word for Word/Mac

Formats supported by Mastersoft Inc.'s Word for Word/Mac

Mac formats

- FullWrite Professional 1.0 and 1.1 (from only)
- MacWrite 4.5, 4.6 and 5.0*
- MacWrite II 1.0 and 1.1*
- Microsoft Word 3.0 and 4.0*
- WordPerfect 1.0x*

Data interchange formats

- ASCII (with several variants for handling hard returns and other formatting features)
- DCA/RFT
- EBCDIC (a mainframe interchange format)
- Microsoft RTF (Rich-Text Format)
- Comm. format (a proprietary format for sharing files among owners of Word for Word)

PC formats

- Displaywrite 2,3,4 and 5 (Native .txt and .doc files, from only)
- Excel 2.10
- Lotus 1-2-3 1.A and 2.0
- Mass-11 Version 8.0
- Microsoft Word 3.0, 4.0 and 5.0
- MultiMate 3.3 and 4
- MultiMate Advantage I and II
- OfficeWriter 4.0, 5.0, 6.0 and 6.1
- PFS:First Choice 1.0 and 2.0
- PFS:Write Version C
- Professional Write 1.0, 2.0 and 2.1
- WordPerfect 4.1, 4.2, 5.0 and 5.1
- WordStar 3.3, 3.45, 4.0, 5.0, 5.5 and 6.0
- XyWrite III and III Plus

Formats in which bit-mapped and PICT graphics are preserved

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PLI broadens SCSI storage lineup

PL CD-ROM based on Sony mechanism

By Henry Norr

Fremont, Calif. — Peripheral Land Inc., which got its start in the Mac storage market with a SCSI connector that came out of the battery compartment of 512-Kbyte Macs, this month announced a slew of additions to its product line, including a so-far mysterious non-volatile storage device that promises exceptional performance and a price to match.

While most of the other trailblazing companies that helped Apple bring SCSI to the Mac have since disappeared or de-emphasized storage, PLI has maintained its focus. In addition to its flagship Infinity 40 Turbo line SyQuest removable-cartridge drives, the company offers a line of standard internal and external drives ranging in capacity from 20 Mbytes to 1.2 Gbytes.

But as competition in the commodity drive market has heated up, the company has steadily built up a line of more-specialized SCSI storage devices.

Topping the list is the Mach I, a new device the company showed at this month's Macworld Expo but which it refuses to explain until patents are granted (see story at left).

Other recently announced or shipped PLI products include:

▸ **PL CD-ROM.** Like the AppleCD SC, it is based on a Sony mechanism, but PLI uses a newer drive and adds several features designed to improve performance, reliability and convenience. An on-board cache with 64 Kbytes of 80-nanosecond RAM helps cut average access time to 380 milliseconds, relatively zippy by CD-ROM standards.

To avoid dust contamination, a small rotary brush built into the PLI drive cleans the objective lens (the lens that reads data directly from the disk) every time a cartridge is inserted.

The $1,099 drive, which has a headphone jack in front and speaker jacks in the rear, can play audio CDs via a desk accessory called Music Box. To assist multimedia producers in particular, the DA offers on-screen readouts showing time left in the current track and the whole CD, in addition to time elapsed in the track and the disc.

▸ **PL DAT.** Based on a Wangtek mechanism, it backs up as much as

See PLI, Page 18

Mysterious Mach I in the works

PLI turned some heads at its Macworld Expo booth this month with the Mach I, an external unit the company said combines RAMlike 1-millisecond access times, exceptional data throughput and the non-volatility of magnetic storage.

"You can pull the plug and not come back for 10 years, and your data will still be there," said Leo Berenguel, PLI president. He declined to explain the technology, citing pending patent applications, and other employees said that they, too, remain in the dark about the Mach I.

Sources at the company and in the industry, however, speculated last week that the new series combines a conventional hard disk and the RAM-drive technology PLI already offers, along with special software or firmware to ensure that data is written through from RAM to disk.

PLI said the drive can transfer data at 5 Mbytes per second, presumably using a third-party card to provide a SCSI port with higher performance than Apple's can deliver.

A 20-Mbyte version of the Mach I will have an introductory price of $4,995, while 40- and 100-Mbyte units will be $1,995 and $19,800, respectively. A 200-Mbyte unit also is under development.

Berenguel said all models will be available Oct. 1, assuming patents are granted. — *By Henry Norr*

A.M.E. now available, bundled

Access Managed Environment, or A.M.E., Casady & Greene Inc.'s recently released security package, is now bundled with all PLI removable-cartridge and fixed hard drives.

Now at Version 1.1.2, A.M.E. went into general distribution earlier this summer after 10 months of beta testing at 135 sites and four additional months of controlled real-world "gamma" testing.

Consisting of two Startup documents (INITs), a desk accessory and a management application, the program is designed to provide users and administrators with a single package encompassing a variety of security needs. Options include simple protection against viruses and accidental deletions; complex, multitiered access controls for large networks; and multipass erasures for top-secret documents.

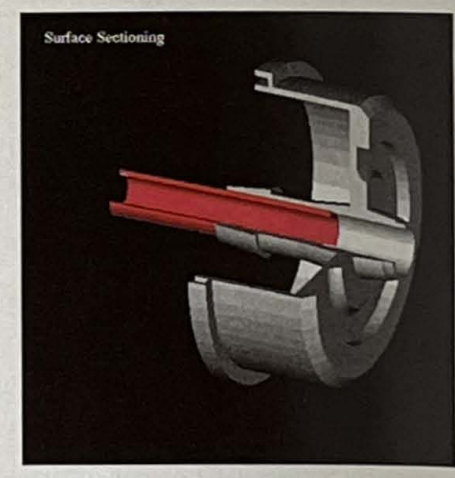
Customers who don't get A.M.E. with a PLI drive can purchase single copies at a suggested list price of $279, five-packs for $895 or 10-packs for $1,495. Site licenses for small and medium-sized installations are sold through dealers and value-added resellers; licenses for 200 or more users are available direct from Casady & Greene.

Casady & Greene Inc. can be reached at P.O. Box 223779, Carmel, Calif. 93922; (408) 624-8716. — *By Henry Norr*

Flexible editing with DesignCAD

By Rochelle Garner

Pryor, Okla. — DesignCAD Inc., a subsidiary of American Small Business Computers Inc., is shipping DesignCAD Macintosh, 2-D and 3-D software that provides solid modeling, surface modeling and rendering capabilities.



DesignCAD Macintosh features a unified mathematics methodology that lets users define 2-D, wireframe and solid objects with the same equations.

Priced at $699, DesignCAD's software is a completely rewritten version of Origins from DeltaSoft Inc., which DesignCAD acquired in March (see MacWEEK, April 3).

The new program is based on an entirely new geometry called unified mathematics, now used in a number of mainframe-based CAD applications.

Unlike vector-based programs, which use different equations to define objects such as circles, squares and rectangles, unified mathematics defines all entities using the same equation.

According to the company, using the same geometry means that objects can be drawn with far fewer points than would otherwise be possible and resolutions can be changed for faster screen redraw, without regenerating the database.

"Since it represents circles with the same equations as lines and rectangles, you can calculate any variety of intersections on any complex curve with greater precision but without the mathematical overhead of vector," said Steve Davis, chief software engineer. "It also means you can do powerful editing because you can bend any curve or line."

The new geometry requires System 6.0.5 and 32-bit QuickDraw, which the company ships with the program. DesignCAD Macintosh has been written to take maximum advantage of those QuickDraw calls that are speeded up by QuickDraw acceleration boards, such as Apple's 8•24GC card. It also will run in Version 2.0 of A/UX.

In addition, the program:

▸ Features a dimensioning tool box, which includes linear, parallel, radial, automatic and associative dimensioning.

▸ Supports tolerancing parameters, including fractions.

▸ Includes built-in translators for Release 10 of DXF (Drawing Interchange Format); IGES (Initial Graphics Exchange Specification); HP-GL; ASCII X,Y,Z for inputting coordinates measured from models; PICT; and Origins and DesignCAD MS-DOS formats.

▸ Creates rendered images with ray casting (ray tracing with one bounce of light), specular highlighting for glossy effects and smooth shading.

In addition, the company said, a $50 add-on, due in the third quarter, will offer solid modeling with Boolean operations. This capability will let users add or derive new objects by subtracting or adding objects from other complex objects.

DesignCAD Inc. is located at 327 S. Mill, Pryor, Okla. 74361; (918) 825-4848. □

Paracomp ships Swivel 3D Pro, ModelShop 1.1

By John Webster

Boston — Following up on last month's news that it has acquired rights to the FilmMaker animation package, Paracomp Inc. said last week it began shipping several additional products that enhance its line of visualization tools.

With Swivel 3D Professional, users can create fully shaded, 24-bit color images. The rendered man was touched up with Paracomp's newly acquired FilmMaker, an animation program developed by Encore Development of Paris.

▸ **Swivel 3D Professional.** A high-end 24-bit color version of the company's Swivel 3D modeling program, the new program offers a variety of enhancements. These include 24-bit PICT output; full-screen display for output to video; export to Pixar's MacRenderMan for photo-realistic rendering; export in Autodesk Inc.'s DXF (Drawing Interchange Format); eight independent light sources with intensity and reflectance controls; and environmental mapping for simulated reflections.

Swivel 3D Professional is $695; Swivel 3D remains on the market at $495. Upgrades to the new program will be $95, or $10 to customers buying Swivel 3D after Aug. 1.

▸ **ModelShop 1.1.** A new version of Paracomp's $595 architectural modeling package adds several new file-interchange options. The program now can export models to Swivel 3D for shading, rendering, animation and flythroughs, as well as import PICT files, enabling users to convert two-dimensional drawing and CAD files into 3-D models. It also can output PICT files for screen presentations and slides.

Paracomp said it will send the upgrade free to currently registered users; the cost will be $10 for customers now registering.

▸ **SwivelArt.** Priced at $129.95, SwivelArt is a collection of 3-D images and fonts for use with Swivel 3D or other programs. Included are 10 serif and sans serif 3-D fonts; a HyperCard stack that lets users type in 3-D; and more than 100 3-D maps, images of office equipment and words and symbols commonly used in presentations.

Owners of any version of Swivel 3D can manipulate and edit the images, or images can be exported in PICT or Encapsulated PostScript formats to other graphics applications.

Paracomp said buyers of 10 or more copies of SwivelArt will be entitled to a custom 3-D version of their company name and logo.

Paracomp Inc. is at 1725 Montgomery St., Second Floor, San Francisco, Calif. 94111; (415) 956-4091. □

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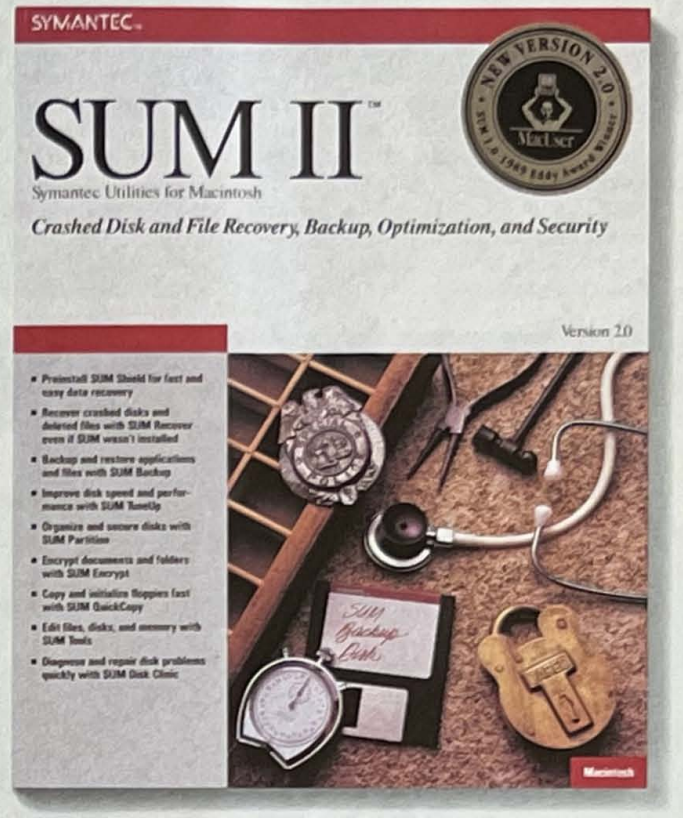
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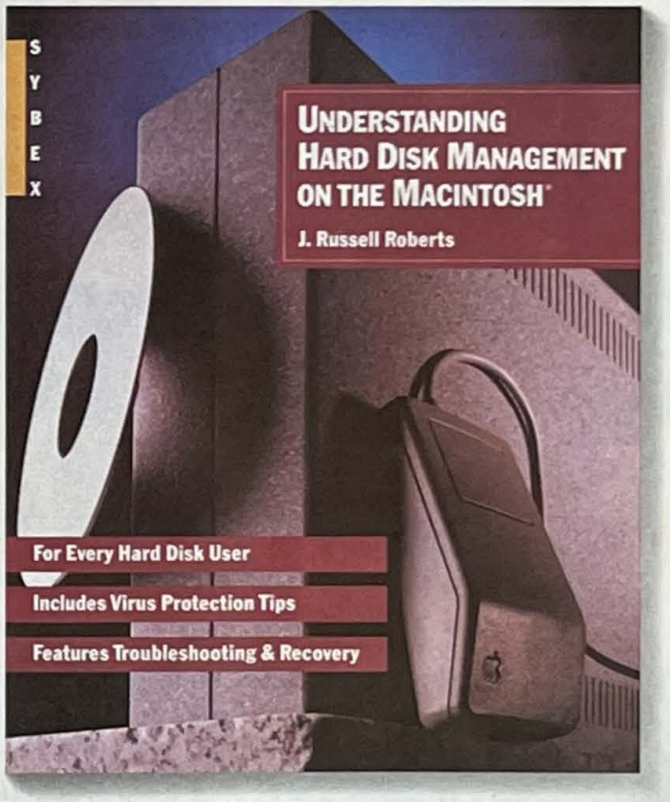
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PLI

From Page 16

1.3 Gbytes of data on 4mm digital audio tape (DAT) cassettes. The drive — the only half-height DAT drive now on the market, according to PLI — is available as a $3,995 standalone unit or in combination with other PLI storage devices.

Available now, PL DAT is bundled with Retrospect, the backup and archiving application from Dantz Development Corp. Additional tapes are $49.

▸ **DOSFloppy.** This 5.25-inch floppy disk drive connects to the Mac's SCSI port and can read 360-Kbyte and 1.2-Mbyte disks from IBM PCs and PC ATs. The drive is due Sept. 1, but the company said pricing has not been set.

▸ **SuperFloppy.** The dual-format SCSI drive for 3.5-inch floppies, reads, writes and formats 720-Kbyte and 1.44-Mbyte DOS disks as well as 400- and 800-Kbyte Mac floppies. The drive will be available next month for $499, the company said.

PLI's original DOS floppy drive for the Mac, the $399 TurboFloppy, reads, writes and formats 3.5-inch DOS disks but cannot work with 400- and 800-Kbyte Mac formats.

▸ **Infinity Optical.** This $4,999 Sony-based magneto-optical drive stores almost 600 Mbytes of data on rewriteable cartridges. If that's not sufficient, PLI's Infinity Optical Disk Library, a file cabinet-size jukebox unit, combines two drive mechanisms with 56 disks that together store up to 36 Gbytes of data.

Including media, the jukebox is priced at $79,000. A 10-disk jukebox is also under development, the company said.

▸ **PL RAM.** These drives use massive amounts of zip-format RAM controlled by a dedicated 68020 processor for high-speed data storage. Available models range from an 8-Mbyte unit priced at $6,995 to a 120-Mbyte model that costs $58,995.

According to PLI, average access time for the SCSI drives is a mere 0.05 milliseconds. The asynchronous data transfer rate, the company said, is 6 Mbytes per second; that far exceeds the 1.4-Mbyte-per-second capacity of current Macs' SCSI ports, but by adding one of the accelerated SCSI boards offered by several other vendors, users can transfer data at up to 5 Mbytes per second, according to PLI.

PLI drives are covered by a one-year warranty, with an extended service program available.

Peripheral Land Inc. is located at 47421 Bayside Parkway, Fremont, Calif. 94538; (415) 657-2211; (800) 288-8754. □

PLI solutions to SCSI configuration hassles

PLI now offers solutions for two sets of hassles that Mac users and managers often face when configuring SCSI systems.

▸ **External termination switches.** All PLI storage devices, including the new PL CD-ROM, now have switches intended to simplify the sometimes nightmarish process of daisychaining multiple devices on the SCSI bus.

Because Apple's version of the SCSI bus, especially on recent fast Mac models, has proven highly sensitive to proper termination, and because electrical characteristics and termination requirements of SCSI devices vary widely, users often need to experiment with several termination patterns to make complex systems function. With drives from most competing companies, that means adding or removing terminators. When they are external, the job is small but annoying; when the terminators are internal, removing them sometimes requires dealer service.

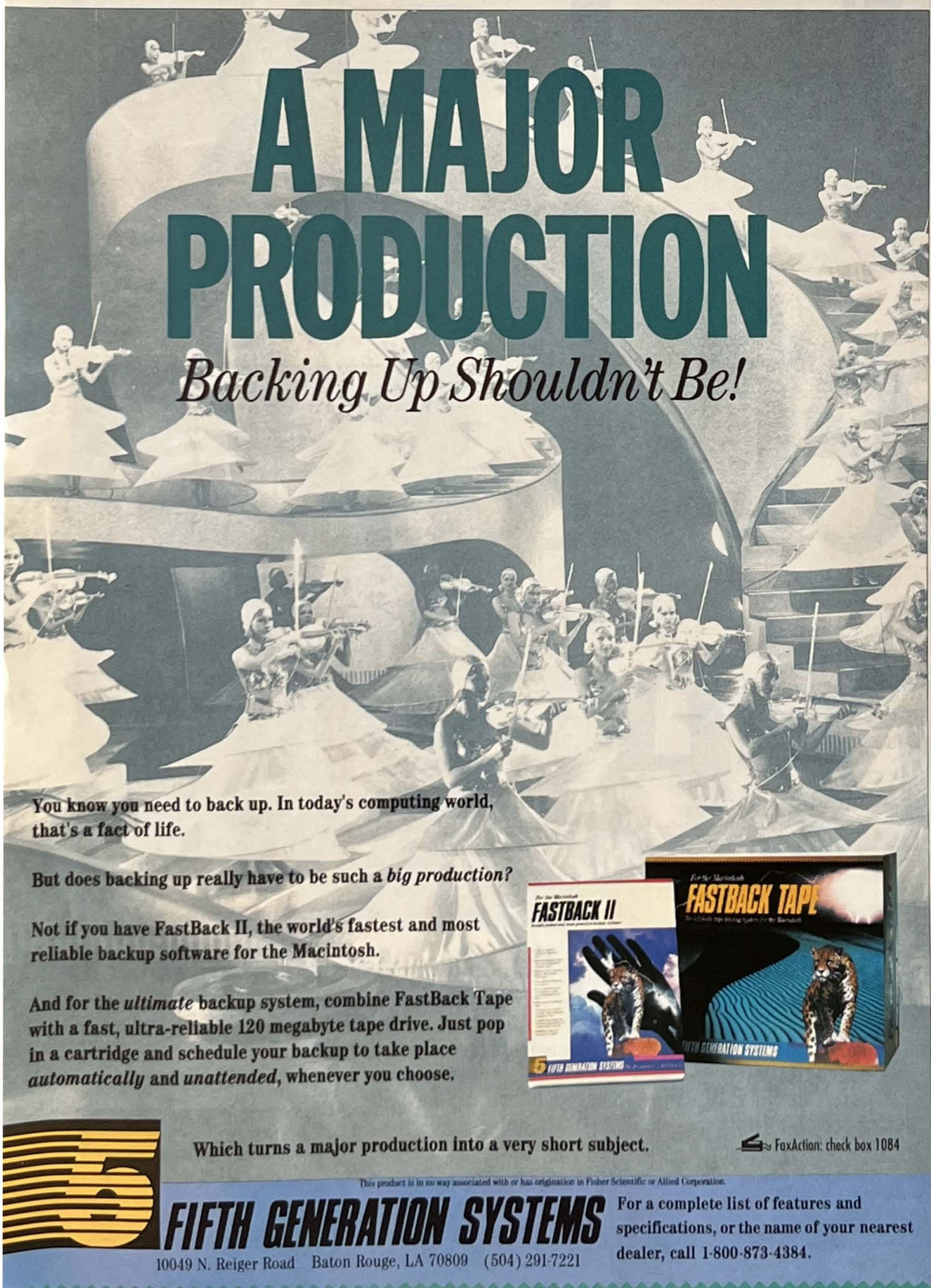
PLI's solution combines internal terminators with a rear-panel switch that turns them on and off.

The switch could be a boon to sites with Mac IIfx machines installed, PLI said: Instead of removing internal terminators, as Apple recommends, users need only shut off termination with the switch and, if necessary, install the special Apple terminator shipped with the new machine. If the drive is later moved to another system and termination is required, the internal terminators can easily be turned back on.

Several other vendors, including La Cie Ltd., recently have added similar switches on some drives.

▸ **Universal mounting bracket.** All 3.5-inch PLI internal drives are shipped with a mounting bracket that works in both Mac SE and Mac II models. The bracket, the company said, not only simplifies initial installation but makes it easy to move the drive to another Mac later.

In addition, PLI drives are bundled with A.M.E., Casady & Greene Inc.'s new security package (see story, Page 16) and with PLI's TurboWare utility suite.
— By Henry Norr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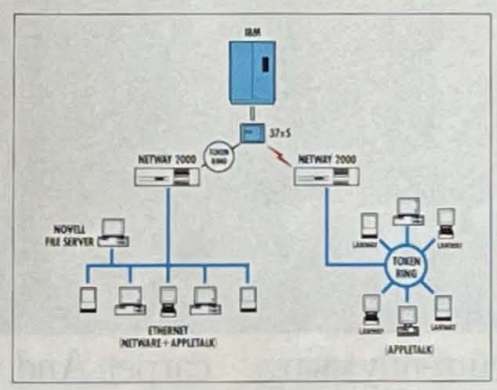

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Microsoft annou second most com

If you're currently using Microsoft® Excel or Word, it's now possible for the people in your department to work together without having a get-together.

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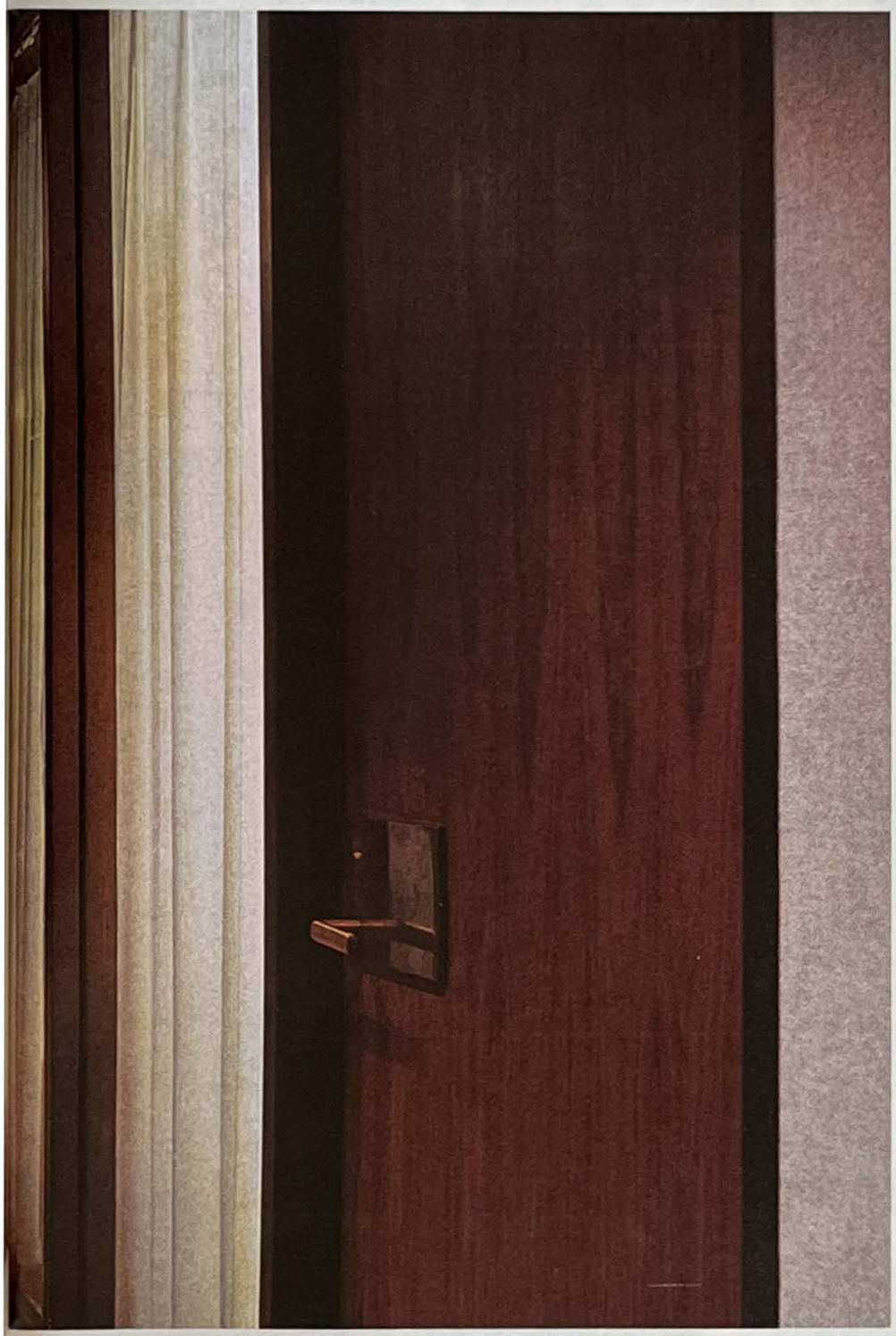

And without losing formatting.

Then, if those receiving your report are in Word, they can access your document with one keystroke, digest it, add pertinent info, even attach suggested changes. And spit it right back to you without leaving their program.

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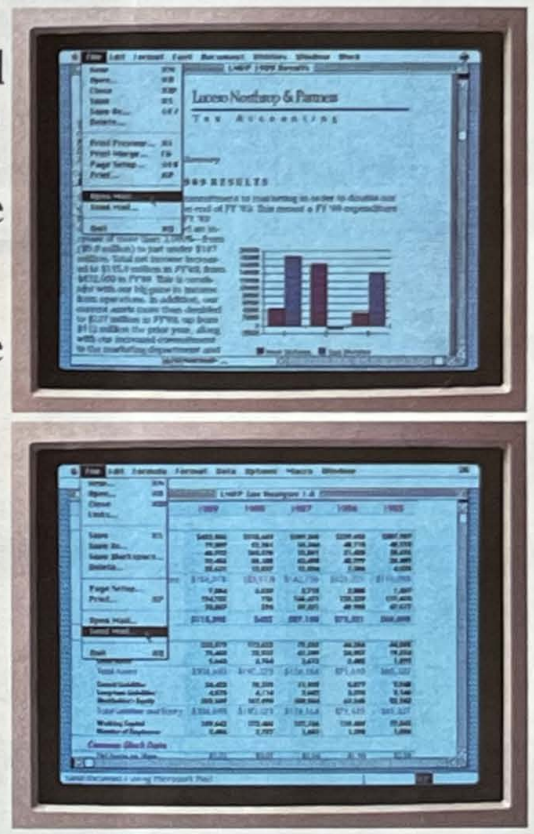

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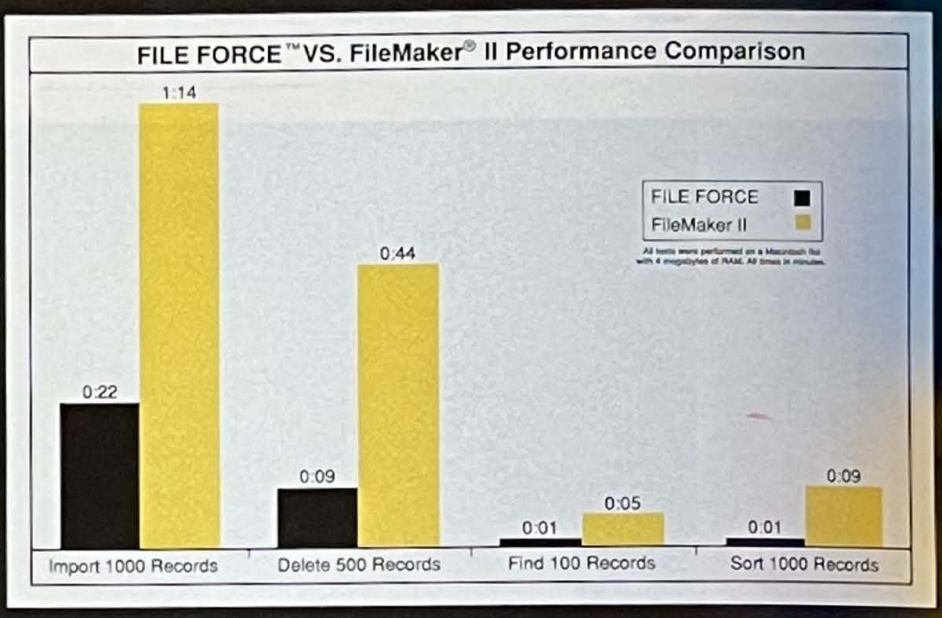

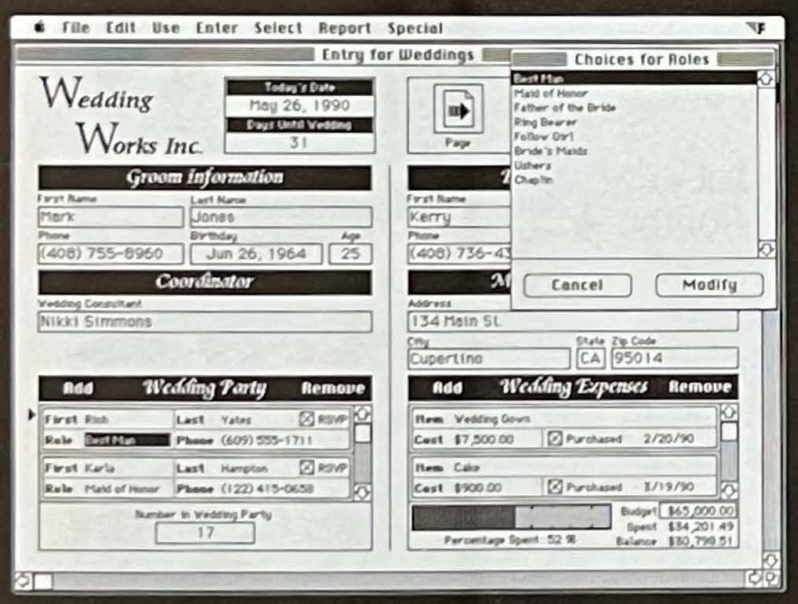

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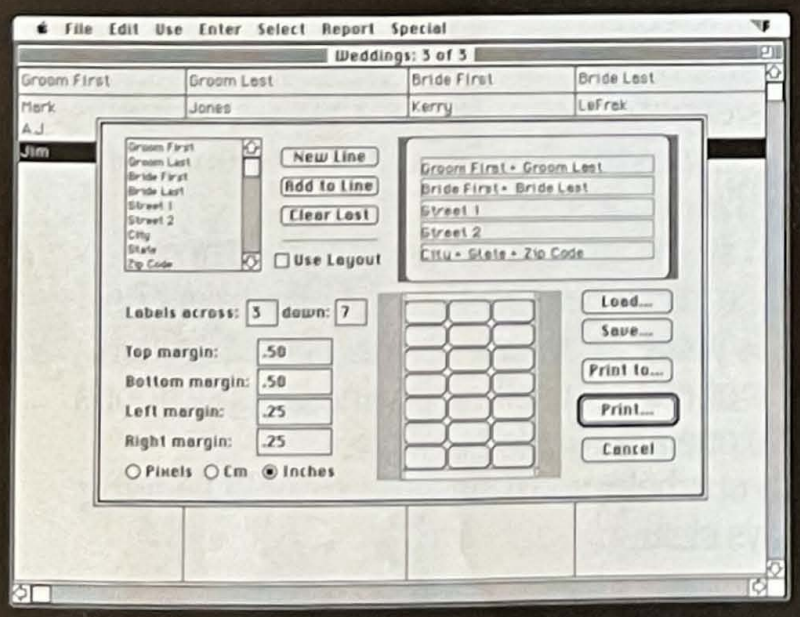

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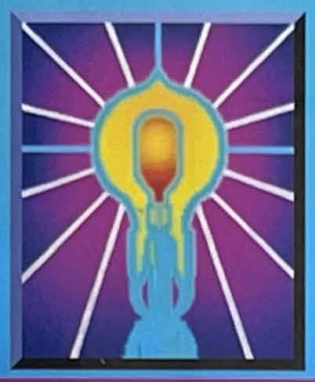

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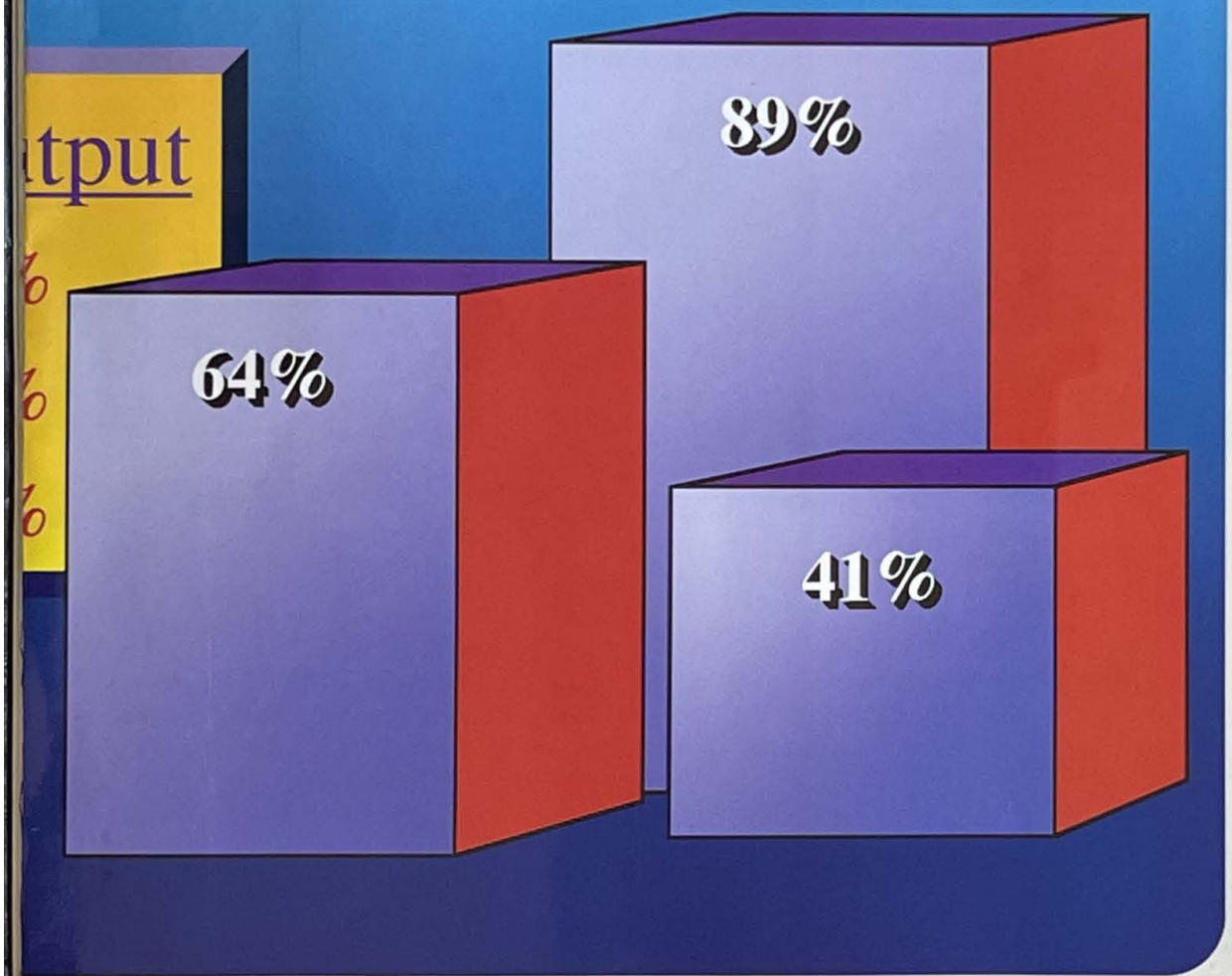
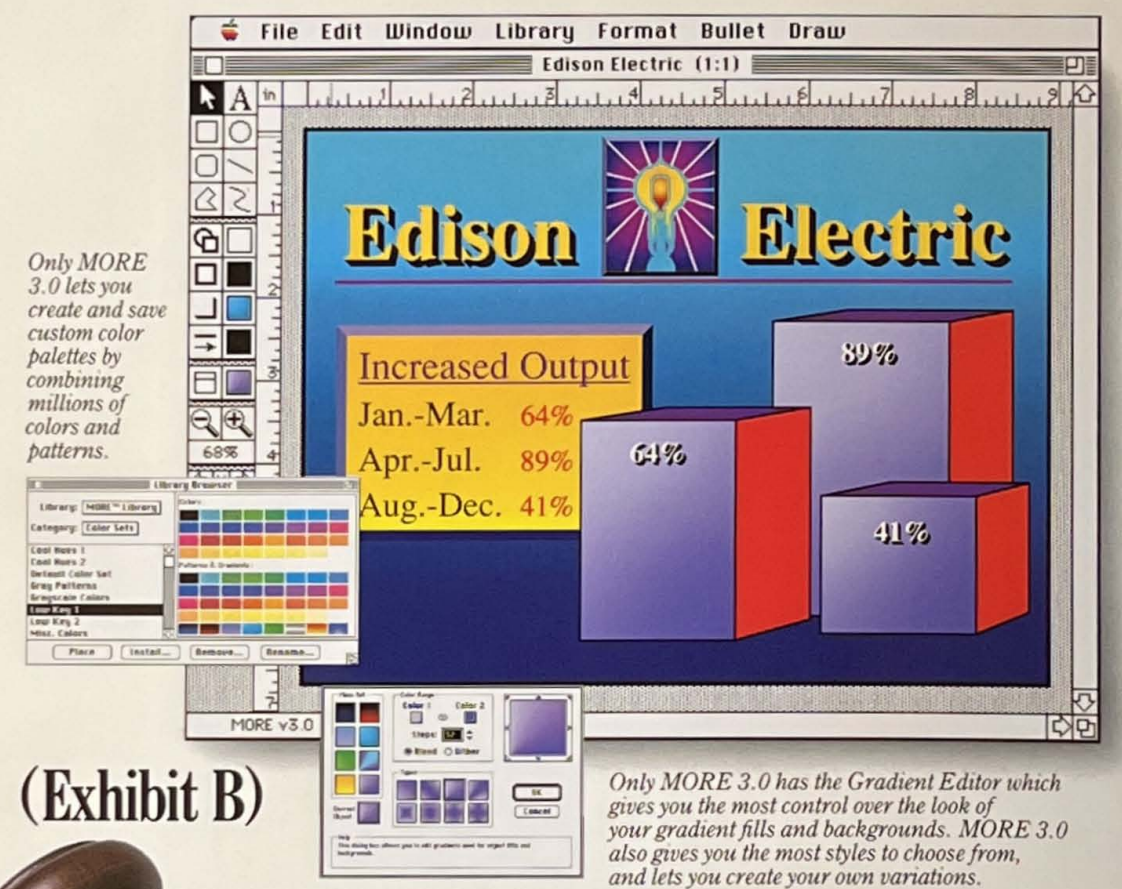


(Exhibit A)

Examine The Eviden



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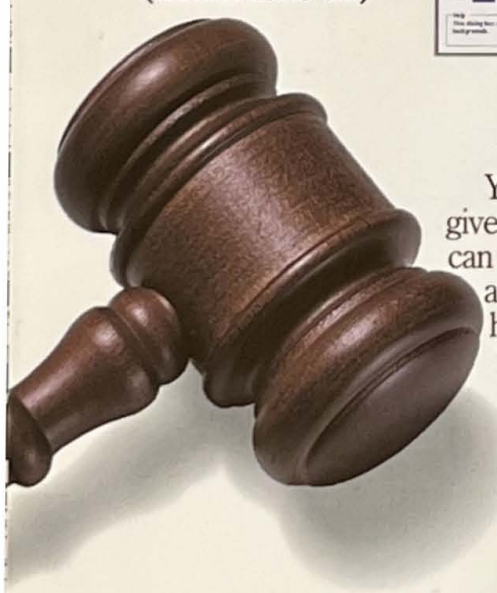
(Exhibit B)



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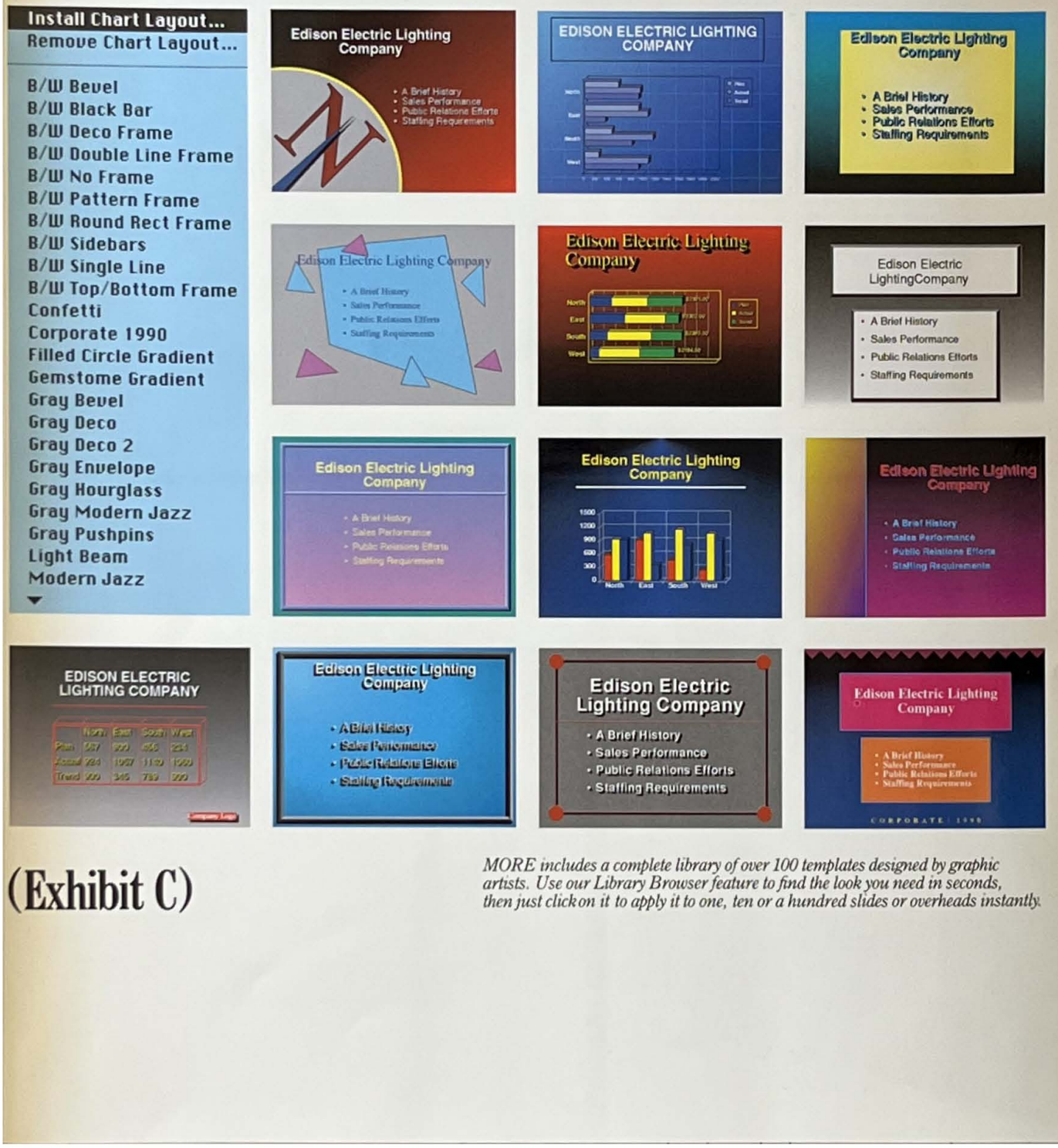

(Exhibit C)

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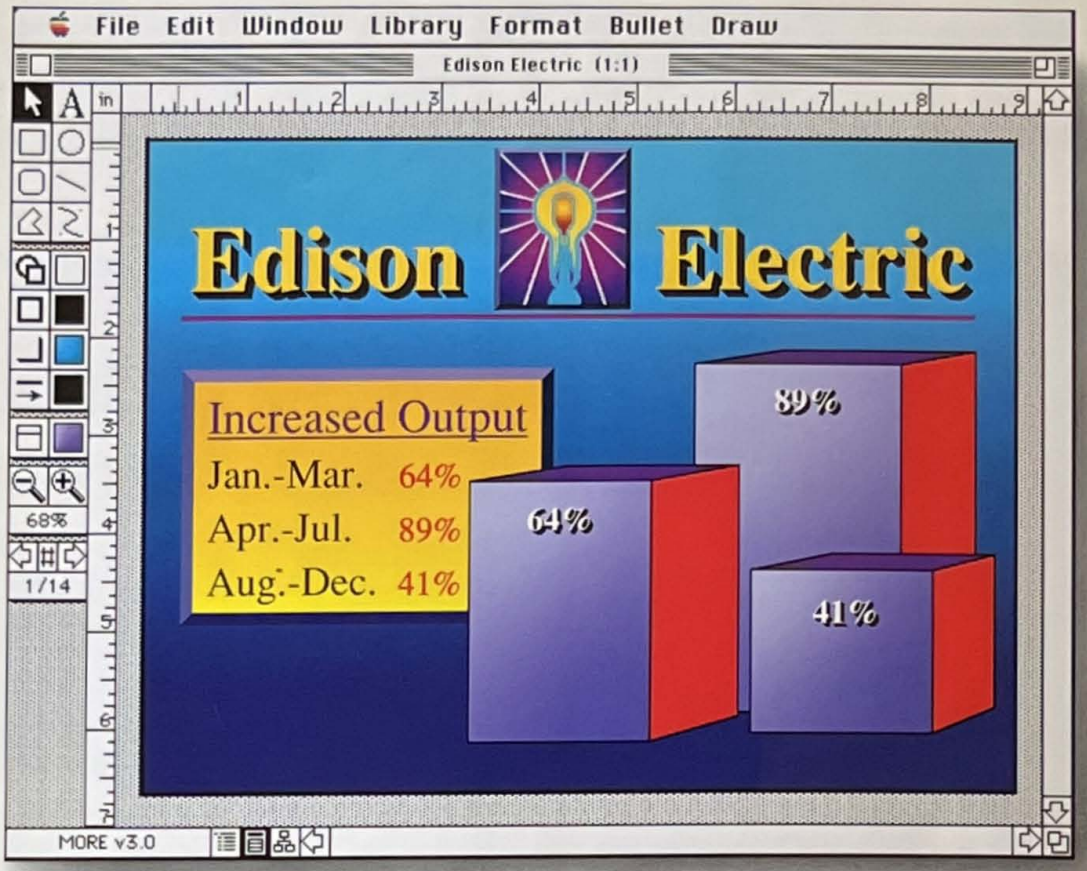

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Older Macs, SEs get 50-MHz '030

By Henry Norr

Boston — A 50-MHz 68030 for your 128-Kbyte Mac? That's now possible, thanks to a new generation of accelerator boards introduced this month by Total Systems Integration Inc.

The new Gemini II board line includes 33- and 40-MHz versions as well as the 50-MHz hot rod; the boards work in compact Macs from the original 1984 model to the Mac SE. List prices range from $1,895 to $3,695, but through the month of August, Total Systems is offering discounts of $500 to $800, depending on configuration (see chart).

Compared with a Mac Plus, the 50-MHz board speeds up CPU performance 1,160 percent, the company said. With a 68882 installed in the board's math-coprocessor slot, floating-point operations are 6,200 percent faster than on a Plus and 525 percent faster than on a Mac IIci, Total Systems said.

For pre-SE Macs, the Gemini II boards are shipped with an internal fan, an auxiliary power supply and a high-speed SCSI port. Apple's 128-Kbyte ROMs also must be added to 128-Kbyte and 512-Kbyte Macs.

The new boards can hold up to 4 Mbytes of RAM. Motorola 68882 math coprocessors are optional.

The 33-MHz and 40-MHz members of the Gemini II family can be upgraded in the field with faster processors and Total Systems said it will offer a "liberal upgrade policy" for owners of its earlier Gemini 16-, 20- and 25-MHz '030 accelerators.

The new accelerators are compatible with large-screen Mac displays from Apple and other vendors, as well as with many IBM PC monitors.

Total Systems' products are covered by a 30-day money-back guarantee and a one-year warranty.

Total Systems Integration Inc. is located at 99 W. 10th Ave., Suite 333, Eugene, Ore. 97401; (503) 345-7395; (800) 874-2288. □

Gemini II accelerator boards

List and promotional prices for Total Systems Integration's Gemini II accelerator boards

Price

CONFIGURATION	MAC MODEL	LIST	UNTIL AUG. 31
33-MHz 68030	SE	$1,895	$1,395
33-MHz 68030	Mac 128/512/Plus	$2,095	$1,595
33-MHz 68030/68882	SE	$2,595	$1,995
33-MHz 68030/68882	Mac 128/512/Plus	$2,795	$2,095
40-MHz 68030	SE	$2,095	$1,595
40-MHz 68030	Mac 128/512/Plus	$2,295	$1,795
40-MHz 68030/68882	SE	$2,895	$2,195
40-MHz 68030/68882	Mac 128/512/Plus	$3,095	$2,395
50-MHz 68030	SE	$2,495	$1,895
50-MHz 68030	Mac 128/512/Plus	$2,695	$1,995
50-MHz 68030/68882	SE	$3,495	$2,695
50-MHz 68030/68882	Mac 128/512/Plus	$3,695	$2,795

Total Systems also adds IIci cache, INIT to speed math operations

By Henry Norr

Boston — Along with its new Gemini II line of accelerators for 68000-based compact Macs, Total Systems this month announced several products to speed up newer Mac models.

▶ **QuickCACHE IIci.** The company joined a growing list of companies offering static-RAM-cache cards for the Mac IIci's special Processor Direct Slot (PDS). Available now, the QuickCACHE IIci includes 64 Kbytes of 25-nanosecond SRAM. The board will list at $795 but is available this month at a special post-expo price of $595.

▶ **QuickSANE.** A Startup document (INIT) for machines equipped with a math coprocessor, QuickSANE is speeds up floating-point arithmetic in programs that do not directly support the math chip.

The $79.95 program intercepts calls to the Standard Apple Numeric Environment (SANE), a component of the Mac Toolbox, and redirects them to the 68882 math coprocessor.

The 68882 yields results identical to SANE's for fundamental arithmetic operations. Results of complex transcendental operations might differ slightly from those produced by the highly accurate Apple environment but in ways that aren't likely to be significant, Total Systems said.

QuickSANE will have no effect on programs such as Microsoft Excel and others that already take advantage of math coprocessors, but Total Systems said its software will accelerate such operations as screen refresh in Aldus PageMaker, CAD redraws and database sorting.

The program is targeted specifically at the Mac SE/30, IIx and IIcx but also works with the Mac IIci and IIfx, Total Systems President David Shipway said. It also works with the original Mac II, which has a 68881 coprocessor. □

New life for aging compact Macs

By Henry Norr

Kanata, Ontario — Newbridge Microsystems last month began shipping a 33-MHz 68030-based accelerator for the Mac SE and a 25-MHz model that works with all 68000-based compact Macs.

▶ **The NewLife 33SE.** Priced at $2,895, Newbridge's new SE board delivers performance "approaching the Mac IIfx class for a fraction of the cost," the company said. Along with the '030, the board has a 68882 math coprocessor and 256 Kbytes of 25-nanosecond static RAM that ensures zero-wait-state operations.

Four SIMM (single in-line memory module) sockets allow on-board memory expansion to 4 Mbytes, while a pass-through connector for the SE's 96-pin direct slot lets users add other expansion cards.

▶ **The NewLife 25.** Newbridge's 25-MHz upgrade board is available in two versions, one for the models from the original 128-Kbyte Mac through the Mac Plus and the other for the SE. Each features a 68030 CPU and 68882 math coprocessor running at 25 MHz, along with four SIMM sockets. Both versions of the board are priced at $1,495.

For both the NewLife 33SE and the NewLife 25, Newbridge offers an optional $395 video adapter that drives external multiscan monochrome displays. A SCSI connector for the 25-MHz board is $145.

Earlier this month, Newbridge announced the $2,100 NewLife IAC, a programmable, multifunction NuBus card that incorporates an Am29000 RISC (reduced instruction set computing) processor, an Ethernet controller and port, and an independent SCSI connector (see MacWEEK, Aug. 7). The original family members, NewLife 1 and 2, enhance 512KE and earlier Macs.

Newbridge Microsystems is located at 603 March Road, Kanata, Ontario, Canada K2K 2M5; (613) 592-5080; (800) 267-7231. □

New Media STEVE ROSENTHAL

New editing systems: On the cutting edge of desktop video production

Most of the talk about desktop video production on the Mac still centers exclusively on hardware, but it should be obvious that software also will be necessary to make this area flourish. From what I saw at the recently concluded Macworld Expo, we're now about midway in the development process.

I figure it will take video software about five generations to catch up to where desktop layout software is today. By that point, almost anybody who can use a Mac will be able to turn out edited video, just as today almost anyone who can use a Mac can learn to lay out a newsletter.

Steps 1 and 2. The first generation gave us basic machine control, letting us directly set or read device functions. The software works like a hard-wired front panel with switches and buttons.

Most boards or external boxes supply a set of interface routines as segments of C-language programs or as HyperCard externals. That's fine for developers, but not for a mass market.

The second generation of Mac video-editing programs added simple manual editing with visual feedback. You use on-screen controls to position the tape where you want it, then tell the system to perform the edit. The Mac acts like a stand-alone video-editor controller box.

Most of the programs in this class also read the industry-standard SMPTE (Society of Motion Picture and Television Engineers) timecode used to mark the precise location of each video frame.

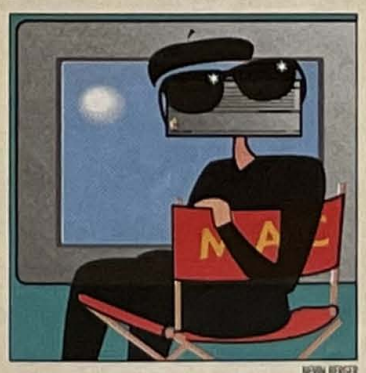
The result is like editing text by exclusively pointing with the mouse, cutting with the Delete key and typing in new text. You can't go very fast, but you can get the job done.

Step 3. The third generation adds a range of commands and a full set of search functions but still specifies video segments by their starting and stopping points. You're working with segments to form a video document, but it's up to you either to visualize the segments or to play them back on a separate window or monitor.

You might compare it to the way word processing used to be done: You did your editing in one program and then ran a second formatting program to see the result.

Step 4. In the fourth stage, the video-editing software is graphically based rather than consisting of lists of beginning and ending points in numerical form. But the graphics are still schematic rather than representative, which means you might see a long box representing a segment, rather than the actual images themselves, on-screen.

With a graphical display, you can have an object orientation and direct manipulation, in which you give commands and change the order by picking the graphical representations with the mouse. I think of that as the video equivalent of word processing. You can cut, paste and move projects, but it's still not WYSIWYG.



KEVIN REAGER

Several recently announced programs will use this model. MediaMaker from MacroMind Inc. and the unfinished editor, code-named Kubrick, from Farallon Computing Inc. (shown at the Seybold Seminars' Digital World conference in June but not at Macworld Expo) fall into this class, as does the editor segment of the forthcoming Video F/X machine from Digital F/X Inc.

Step 5. In the fifth stage, we're finally editing actual captured video images on-screen rather than working only with boxes. Using reduced images captured from our video sources as stand-ins for segments, we can do true WYSIWYG video layout.

More to come. There's more to good editing than rearranging video segments, but the programs currently on the market are trying to make video as familiar a data type as text. Perhaps when we reach Step 6, the software will have the capability to make a complete picture.

Send tips and comments to Steve Rosenthal, c/o MacWEEK, 301 Howard St., 15th Floor, San Francisco, Calif. 94105; AppleLink: Steve.R; MCI: 114-8611.

Letters

That's like comparing Apples and Compaqs

All this whining about the price of a Mac is ridiculous. If you compare brand-name systems, the Mac costs less. A Mac IIci with a color monitor costs a *lot* less than a Compaq 385/25. The advantage becomes much clearer when you add in the operating system, the coprocessor, a HyperCard workalike, Windows 3.0, the VGA card needed to display 256 colors and the mouse. When you also consider the ease and power of the Mac, it is a clearly superior machine. Come on. Wake up. Stop whining and sell the features and the benefits, not the cost. I say the cost whiners should get out of the computer business and sell used cars.

Mark Infanger
Classic Configurations Inc.
Houston

The way we see it, buying a used car is tricky enough already. No purpose would be served if used-car dealers started whining about the perceived high cost of the Mac relative to 1988 LeBarons. — Ed.

Where's the coverage of multimedia software?

I have read several articles in MacWEEK regarding the videoboard advancements that put television on the Macintosh. These articles on multimedia, as yet an obscure and undefined term, focus on hardware companies and rarely extend the same coverage to software companies. And I admit that the hardware companies you promote do not mention the alliances set up with software companies that implement these advancements.

Nevertheless, your favoritism toward Apple's doctrinaire, yet scattered approach and the chosen "priestly prophets," such as MacroMind Inc., appears to be an issue of secular elitism. The "Pope," John Sculley, selects those who are favored and those who are ignored. The evangelistic fervor at Apple has dissipated, yet all agree it needs to be renewed to educate the market.

You blatantly neglect the work of others: Authorware Inc., which promotes and sells the advancements of MASSmicro within Authorware Professional, and Edudisc Inc.'s strategic partnership with and software integration of Radius Inc.'s TV into its MacVideo Interactive software. Macintosh News does not present such a bias. You stress nothing but hardware comparisons and specifications (see MacWEEK, July 31, "The quest for Mac video input") and unsubstantiated leaks (see MacWEEK, May 22, "Radius TV tunes into video"). I have yet to see any credit given to the software companies that have worked with and are delivering products to critical markets for useful purposes other than watching TV on a computer!

It is a sad situation that an industry leader such as MacWEEK chooses to omit these practical uses of technology and continues to mystify the vague field of multimedia. The Macintosh innovators may be left behind as the bandwagon picks up speed and the IBM-Microsoft alliance crushes the emergence of applying this technology in a marketplace it already dominates.

Without value-added solutions and uniqueness, would the Mac have made it in the marketplace? I realize that because Apple is a "little IBM," it now follows Big Blue's example and cannibalizes, in its own vested interest, the real "spirit" of alternative definitions and applications of "multimedia." Does the press just blindly follow? Whatever happened to the "fourth estate"? I regret your abuse of the whole picture and request a dialogue or debate between the people involved in the field in the pages of MacWEEK on the meaning of multimedia.

L.L. Jarrell, CEO
Edudisc Inc.
Nashville, Tenn.

Thank you for your many kind observations, but please see MacWEEK, Aug. 14, Aug. 7, July 31, July 10 and all of June. After you've read that, check out the GA article in this issue. — Ed.

Bundling: An idea whose time has come — again?

Considering the arrival of Microsoft Windows 3.0 and current Mac sales woes, it's time Apple fought back with all its resources. For its continued success, Apple needs to take a cue from its introduction of the Macintosh 128K and put real meaning into the word "classic."

Now that Apple again controls Claris Corp., it should seriously consider bundling MacWrite or MacPaint or both with the low-cost Mac Classic model. This promotion (essentially the same as the classic 128K software bundle) would spur the kind of demand the Classic requires to compete with cheapo Windows machines. I think most developers would welcome increased low-cost Mac sales at the expense of one word processor or paint program.

Admittedly, this would be an aggressive marketing move, sure to displease a few software publishers. But since Apple faces a lot of criticism and competition in the low-end market, it needs to land a good solid punch.

Holden Smith
MacTemps Temporary Agency
Cambridge, Mass.

We could pass your idea on to Apple, but only on the condition that you deal with the third-party developers, most of whom are still at DEFCON 2 after Apple's decision to rein in Claris. — Ed.

Review fails to persuade dedicated MORE 3.0 user

I was disappointed with your recent review of MORE 3.0 (MacWEEK, July 31). I'm perplexed by your statement, "For all its new capabilities, however, MORE 3.0 still lacks the easy elegance of its No. 1 competitor, Aldus Corp.'s Persuasion Version 2.0," when you go on further to write that MORE 3.0 moves ahead of the pack?!?

Although the vast array of options available can be overwhelming, the simplicity of MORE 3.0 is based on managing individual blocks of information. Once a user grasps this concept, the dynamic power of MORE 3.0 surfaces.

The market niche for MORE 3.0 is not for:

- Accountants who need a strong spreadsheet.
- Writers requiring a powerful word processor.
- Analysts requiring a powerful database.

MORE 3.0 is an extremely powerful administrative tool in its capability to accumulate, manipulate

and distribute information in a well-organized and professional manner. I contend that if you own a Macintosh, you should own MORE 3.0.

Lawrence Ellis
purchasing manager
Brand Label & Affiliate Products
Square D Co.
Raleigh, N.C.

We suspected the simplicity was hidden in there somewhere. Thanks for finding it for us. — Ed.

Send letters to MacWEEK, 301 Howard St., 15th Floor, San Francisco, Calif. 94105. MCI: 323-1203; fax: (415) 243-3650. Include your name, address and phone number. We reserve the right to edit letters for clarity and length.

Editorial

Boston marked a turning point

Given how long it takes products to get to market and for business strategies to mature, computer shows like Macworld Expo are mere points in a continuum of change. Still, expos are natural places to stop the action and take a snapshot in time.

If last spring's San Francisco show revealed Apple at a low point — reeling from management turmoil, stagnating sales and foreboding over the arrival of Windows 3.0 — this month's Boston show reflected the Mac business on the cusp of a new era.

The most obvious turning point is the change in Apple's strategy from pursuing high-end systems and sales to expanding the market with lower-cost, high-volume machines. Only industry insiders and volume customers got to see the new Macs during the show, but everybody was talking about them. A larger market share for Macs can only help developers, users and every other segment of the Mac community.

Apple looks ahead. Another hopeful sign was that Apple's new management team is largely in place, at least at the top levels. The show's farewell to Jean-Louis Gassée was bittersweet, but it signaled an end to the infighting that has sapped the company. Now Apple can focus its energies on serious marketing and sales.

The spin-in (or should it be "backspin"?) of Claris by Apple troubled some developers, but the news that Claris will pursue cross-platform applications showed that Apple will not manage it in an exclusionary manner. If so, Claris can lead the way into the System 7 future with communitywide — not just parochial — interests in mind.

Software gods willing, this was also the last System 6 show. Many developers were holding back on new and upgraded applications, but there was no dearth of interesting new software this time out. Several new financial-modeling applications made debuts, along with exciting entries in groupware, optical character recognition and personal information management.

External competition isn't looking as fierce as it did a few months ago. Windows is clearly an important factor in the IBM PC world, but it has had relatively little effect on the Mac. The biggest potential problem, the desertion of Mac developers, seems not to have slowed the pace of development. Instead, significant new Mac products came over from the PC for this show, including dBASE IV Runtime Plus, Ventura Publisher and MapInfo, as well as Oasis, a new Mac graphics program from Time Arts.

Moving on multimedia. Boston also may be remembered as the show where we stopped talking about multimedia and started doing it. Mainstream tools such as MacroMind's MediaMaker, Farallon's MediaTracks and Paracomp's FilmMaker became available, while important advances in video compression were demonstrated and high-end production systems from Digital F/X and others made their debuts.

Databases are finally revving up to be the important category on the Mac that it needs if the Mac is to fully participate in corporate computing. Intriguing hints from Microsoft, Claris and Symantec suggest a war brewing in this category that can only be healthy for users. Oracle has installed the first heavy-duty database server on the Mac, and existing players ACIUS, Fox and Odesta advanced the sophistication of their products.

Of course, not all the signs were positive. The crisis in Iraq that erupted during expo week reminded us that the U.S. economy may be entering troubling times, when corporate belt tightening may slow purchases of new personal computers.

Nor are Apple's strategies sure to succeed. That's why Boston did not represent a new Mac era so much as a gateway to a potential future. We'll know more of what the future holds when the continuum pauses next, at the January expo in San Francisco. □

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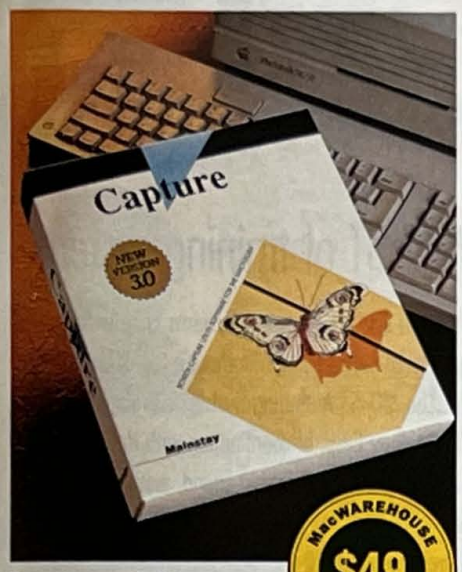

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(Mainstay) Snapshot portions of any Macintosh screen with Capture, a powerful screen-capture utility from Mainstay. Use it to capture pulled-down menus or dialog boxes-even the cursor. Save snapshots as full color PICT files or automatically copy them to the Clipboard. You can even proportionally resize your image for compact storage. Little or no image clean up is necessary. Compatible with MultiFinder as well as all display types and sizes. **Fax*FACTS* #3753.**

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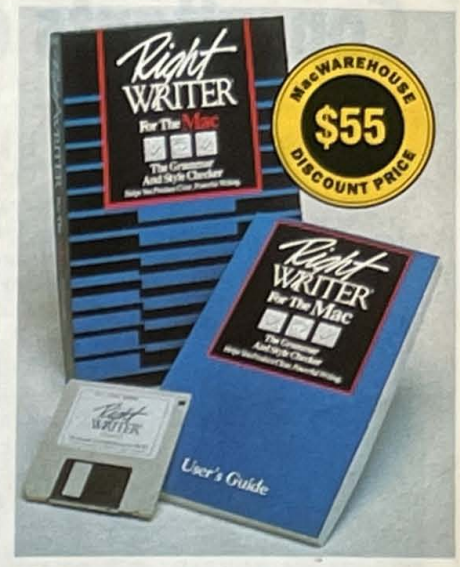

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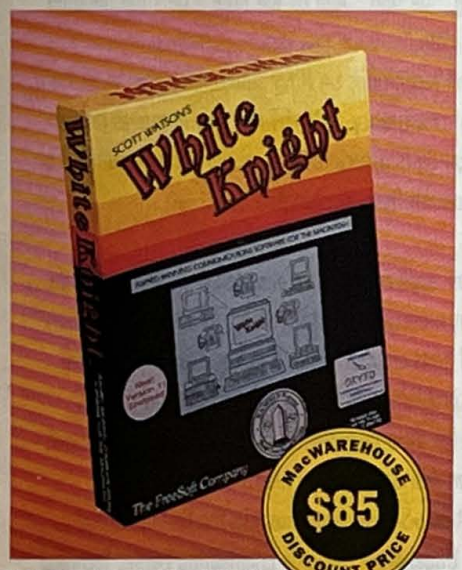

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White Knight 11.0

(FreeSoft) White Knight is an almost total rewrite of the old favorite, Red Ryder. The "new features" list alone is 20 pages long. Some of the most important new features include a reworked user interface with completely reorganized menus and enhanced terminal support including support for the VT-102. White Knight supports the new ZModem protocol, as well as more versions of XModem and Kermit. It works properly with MultiFinder and supports both color QuickDraw and large monitors. FreeSoft provides a *free* subscription to GEnie and a *free* copy of Okyto (a revolutionary Mac-to-Mac file transfer program) with each copy of White Knight. **Fax*FACTS* #1778.**

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(Symmetry) The key to getting things done. KeyPlan provides you with all the necessary tools to quickly and easily create, analyze, fine tune, present and implement your plans. With KeyPlan you enter your information once. Then instantly view it in up to five different organizational formats. Choose from outlines, relational network diagrams, timeline charts, graphs and lists. All views are completely integrated allowing you to select your preferred method of creating, analyzing and monitoring your plan's development. **Fax*FACTS* #1520.**

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Consultants assume MIS burden

Hiring outside sources to manage information systems not only saves a company money but frees up MIS managers to focus on applications and strategic planning for the corporation.

By Emily Kay

Corporate MIS departments increasingly must cope with shrinking budgets, a growing population of users and more-sophisticated technology.

Eastman Kodak Co. of Rochester, N.Y., became one of the first companies to deal with the crunch by turning over management of its information systems to outside resources. The move has been an inspiration to others.

"If you're an MIS manager, 99.9 percent of your time is spent putting out fires and not focusing on the real job, which is to add value to the corporation," said Peter Bernstein, senior analyst with Probe Research Inc., an industry consultant in Cedar Knolls, N.J. "That job is to look at applications and develop overall strategic plans to contribute to the corporation as a whole."

According to Chris Disher, outsourcing practice director with Nolan, Norton & Co., a Chicago-based management consultant company, hiring outside IS help can save a corporation up to 40 percent per year in information-technology costs.

Mac sites hiring vendors. Many large Mac sites are incorporating that reasoning into their business strategies and are hiring consultants to run at least part of their microcomputer tasks, if not their entire data processing operations.

As director of planning and information resources for Pitney Bowes Inc.'s Mailing Systems Division in Stamford, Conn., Bill Shannon has hired outside vendors to train and support microcomputer users. Before Macs even hit the desks at Pitney Bowes, Shannon worked with Businessland Inc. to decide what role the machines would play in the company.

"We weren't just going to bring the Mac in because the end user wanted it," said Shannon. "We asked Businessland to extend our perspective, and they worked with us on standards and the rollout."

Businessland, which already installed and supported Shannon's MS-DOS computers, assumed the same responsibilities for Macs.

Without outside vendors, Shannon would have been compelled to double his staff of "one-and-a-half" people, a more expensive proposition. At about $35,000 per year plus benefits, one additional lower-level staffer would cost the company more than $100,000, Shannon estimated.

"My installation cost [per personal computer] is less than $100 with software. We installed 600 units this year, so we're doing well," he said. "The economics are just dumb simple."

Strategic goals are key. Outside vendors also let Pitney Bowes employees focus on tasks to further the company's business objectives.

"We had a large-systems effort and we decided not to dedicate MIS resources to PC installations, when the benefits were in big transaction systems to help the business grow," said Shannon. "We want our people to do Pitney Bowes work; they understand our needs."

In addition to hiring Businessland, Shannon has a vendor to train his users and another to service micros after warranty, thus avoiding conflicts.

"We're a large installation, and if we have a number of service problems and a number of installs, [one vendor] has to make choices," he said. "We don't want those choices made. There's a difference between installing and debugging. It's a quality issue we've run into."

Mac managers' new roles. As more organizations look to outside vendors for Mac support, new IS roles are emerging, with a greater emphasis on planning and data-resource management, noted Disher.

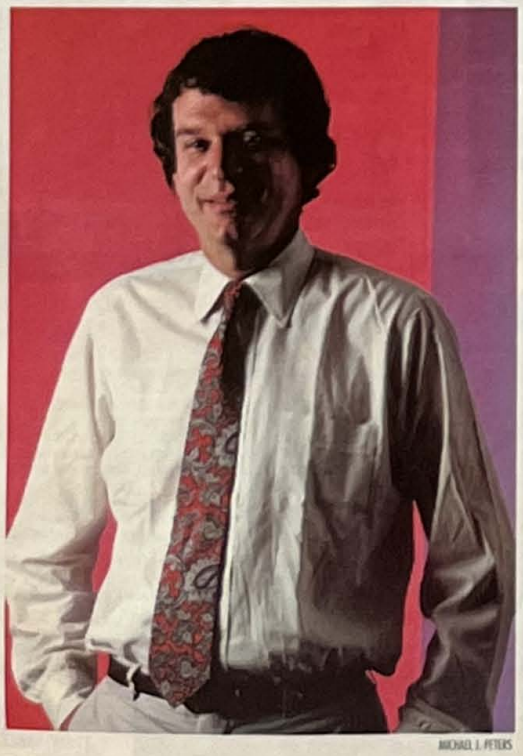
"The whole end-user computing area is changing," Disher said. "[Mac managers] used to manage these things stand-alone; now, they have to be integrated into a network. So managers' role in setting directions for integrating and accessing data becomes more important. It's no longer the end-user computing center of the past. It's much more critical."

Shannon does not manage a staff of support technicians; he manages information and vendor relationships, which are clearly defined. Such relationships aren't always easy to maintain, said Shannon. A vendor's account rep understands an organization's needs and knows which person to send when there's a problem. But account reps get promoted, so new relationships must be rebuilt. And that can be disruptive.

Even with such ups and downs, changing economics are turning more companies to outside computer management so their internal staff can focus on corporate issues.

"We don't want to have ongoing staff trained to do support on a sporadic basis," a large insurance company spokesman said. "It's not part of our business. It makes sense to have a vendor handle that kind of work." □

"If you're an MIS manager, 99.9 percent of your time is spent putting out fires and not focusing on the real job, which is to add value to the corporation," said Peter Bernstein, senior analyst with Probe Research.



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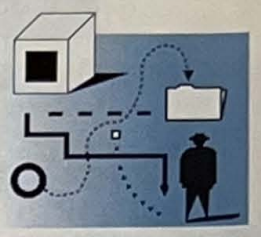

One-minute MANAGER

Hughes makes MO•ST of training system

Middletown, R.I. — At Hughes Aircraft Co.'s Underwater Systems Engineering Center here, a new multimedia/hypermedia expert-system authoring tool is changing the face of training and maintenance. The MO•ST Authoring System, developed by Cambridge, Mass.-based Cognition Technology Corp. in coordination with Hughes, creates "smart hyperdocuments" that incorporate text, graphics, sound, animation and video to assist technicians and trainees.

Cognition is the beneficiary of an unprecedented 20-year licensing agreement with Hughes. The two companies have filed for a joint patent on the technology that makes up MO•ST. Art Stefanopoulos, a project engineer with Hughes' Ground Systems Group, called the agreement "a milestone," adding that it will guarantee software and maintenance support from Cognition and delivery of source code to customers.

According to Stefanopoulos, MO•ST was sorely needed by Hughes' client, the U.S. Navy. "When the Navy drops off a new set of manuals, it needs a forklift to handle the crates — I'm not joking," he said. "And by the time it gets the updated manuals to the boat, they're out of date."

Stefanopoulos said engineers and technicians on Navy submarines now work from their own notes, leading to a lack of consistency. "MO•ST not only improves productivity but also reduces the distribution costs associated with paper documentation," he said. "Now the Navy can upload manuals from Washington, D.C."

Multimedia manuals. Hughes' application will connect to electronic documentation and data from on-board inventory-management mainframes. As a technician carries out repairs, the mainframe will see if parts are available. More important, MO•ST will help technicians diagnose and repair problems using audio (to describe how a faulty mechanism might sound) and video (to show animated repair demonstrations), as well as the electronic-based documentation that once took up reams of paper.

The Navy will implement its first MO•ST hyperdocument in the first or second quarter of 1991. But, according to Underwater Systems Engineering Center Technical Director James Birkett, that will be just the beginning for Hughes.

The paperless battlefield. The Department of Defense will be watching with interest because hyperdocuments fit well into its Computer-Aided Aquisition and Logistics Support (CALS) initiative. "CALS is a government initiative to relieve the gigantic documentation problem," Birkett said.

Birkett said the Department of Defense's goal of creating a paperless battlefield is laudable, but he sees problems down the road that are too big for even Hughes to solve.

"It's basically up to the individual commands to find the best system for implementing it," he said. The result is likely to be a patchwork of electronic-document systems that can't communicate with each other.

Hughes is responding by experimenting with several IBM PC authoring systems. "There are certain areas of the military that are using [the Mac] and liking it, but the IBM PC is still a standard," Birkett said.

The Mac-based MO•ST Authoring System is scheduled to be ported to Microsoft Windows for the IBM PC and to X Window for Sun machines.

In addition, Birkett said Hughes is continuing to work on the user interface. According to Birkett, simple interfaces become increasingly important as documents are passed down from highly educated engineers to the average sailor or soldier. "Most of the users in the military are less than college-educated," he said. — *By Mitzi Waltz*

The Mac Manager

Software upgrades and sequelitis II

BY DON CRABB

A few columns back I talked about software sequelitis: Mac software companies take an old idea and rework it, squeezing out the last drop of its essence rather than spend time and money on innovation.

The problem for Mac managers is deciding when to upgrade. Software sequels for sequels' sake vs. those that constitute legitimate program updates raise management issues that must be answered (unless you've an unlimited software budget or enjoy chaos in your computing environment).

▸ **The cost in time and money on upgrades.** Upgrading just 10 programs can easily cost $1,000 per year *per Mac*. What happens when you own 100 programs and have hundreds of Macs? Can you finesse the issue by limiting application access on file servers to a smaller number of copies? And what happens to performance when you use file servers as application servers?

▸ **Compatibility problems.** If Version 5 of SuperDuperMacProgram is working well for you and your staff, why upgrade to Version 6? But what do Version 5 users do when it's no longer supported by the vendor? And what happens to Version 5 users when other software from the same vendor is upgraded to work with Version 6?

▸ **Upgrading a partial set of your applications.** Unfortunately, this strategy creates its own software interoperability problems.

I don't have magic answers to these questions because solutions that are acceptable in one computing environment would blow up in another. Most of you will probably find that you should upgrade your core applications (the most-used word processor, spreadsheet, database or whatever you use each day) every time a major upgrade is cranked out.

The reason is that major upgrades tend to fix many accumulated bugs, address the problem of compatibility with the latest System from Apple and often fill some glaringly obvious feature holes.

But some major upgrades change the nature of the software itself. My pet peeve on this is Symantec's MORE. When they took MORE from 1.1c to II, they made a great outliner into a full-blown presentation package, à la PowerPoint. If I had wanted to do presentations, however, I'd have bought PowerPoint. That's why I've decided to stick to 1.1c, even though Symantec has upgraded it again to MORE III.

As a Mac manager, you'll have to make your own decisions about when to keep the old, when to bring in the new, and whether you're throwing out the baby with the bath water.

The problem of software upgrades and sequelitis also brings up another issue, as Dick Skeie, president of CE Software, pointed out to me in a recent letter: "Iteration makes more-perfect products. No one gets it right the first time. DiskTop 4.0 blows away DiskTop 1.0, and we wouldn't be in business today if we hadn't taken QuickMail through to its current version. However, we do understand the point you're making. Revolution comes around regularly to unseat the evolved 'standards' or 'sequels.' But that's how small companies unseat large established companies ... and then [get] unseated by yet more innovative companies. There's room for both in this world."

Dick's point is well-made. He proposes the concept of revolutionary software sequels. And I think it makes sense. He proposes that small companies push larger ones into innovation, lest the larger companies grow monolithic. And I agree with that, too.

But one point that I think Dick's analysis misses is that today's slow economy and slower computer market have scared a lot of companies into producing kitchen-sink sequels that try to leverage their current customers. Such products don't do a damned thing to advance the state of the computer art, and they often have the longer-term effect of lowering all of our expectations.

Just when computing technology should be propelling us toward better solutions, computer sequels threaten to slam on the brakes while making the always-problematic upgrade question a bigger pain in the ass for Mac managers everywhere. □

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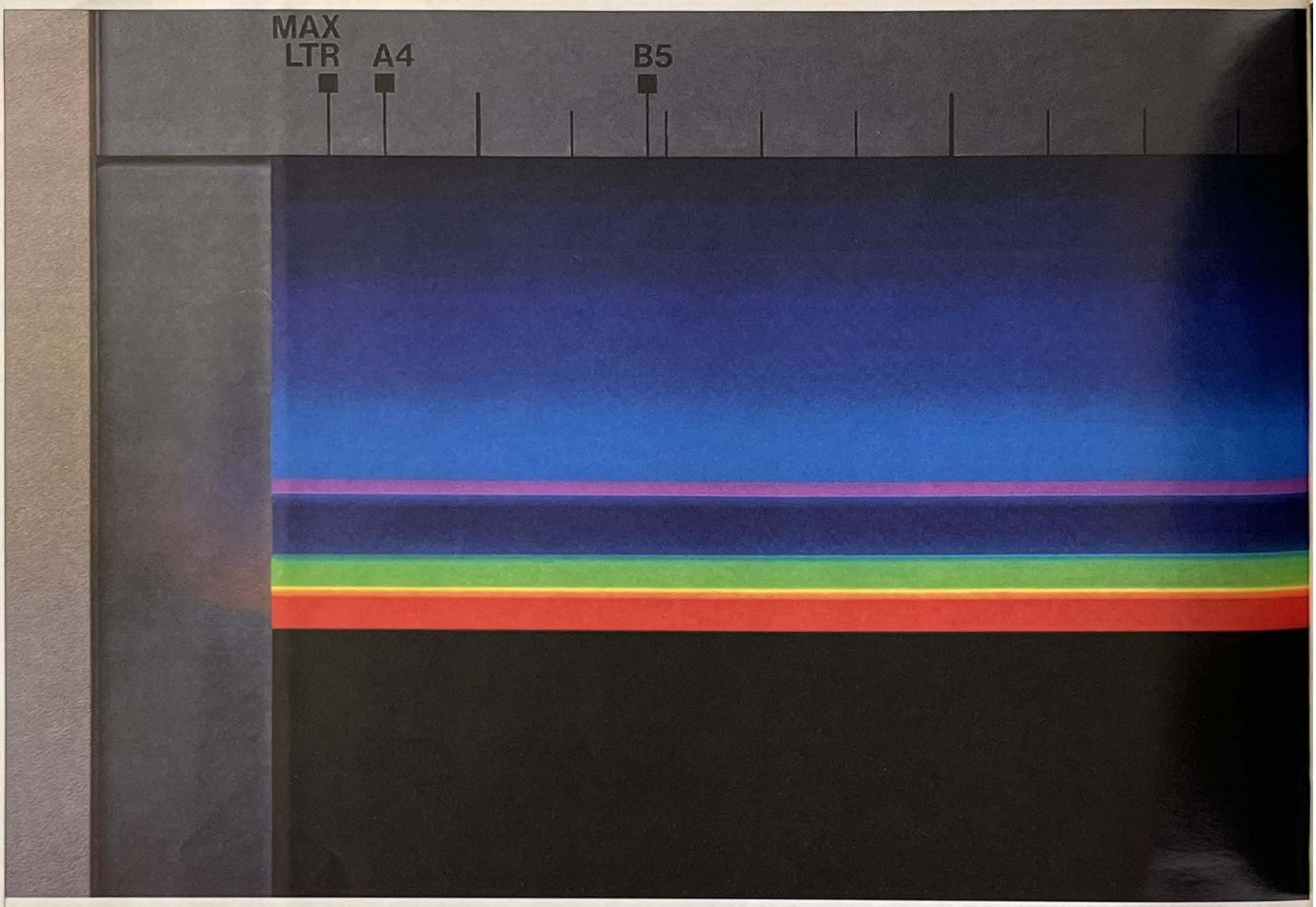

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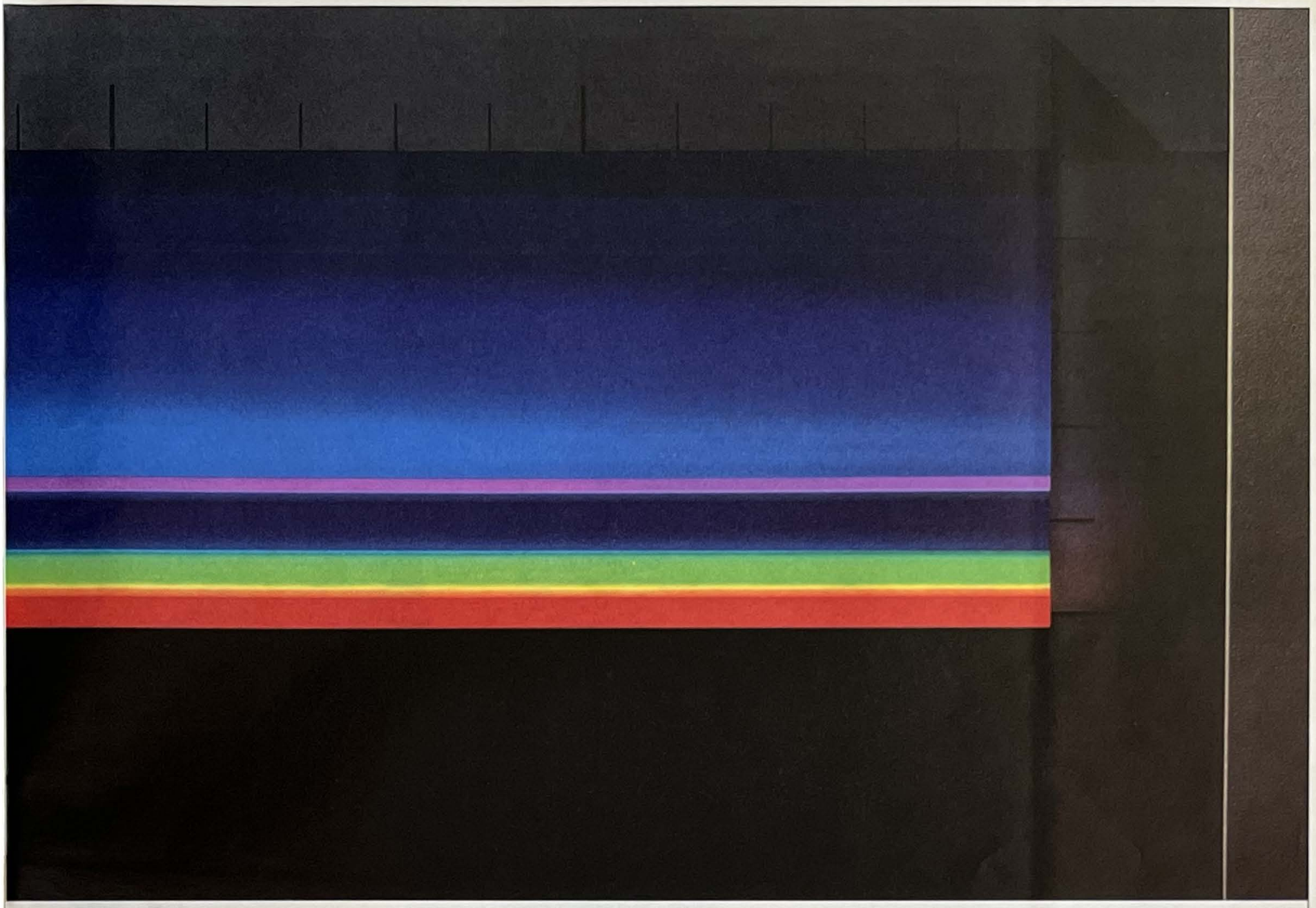

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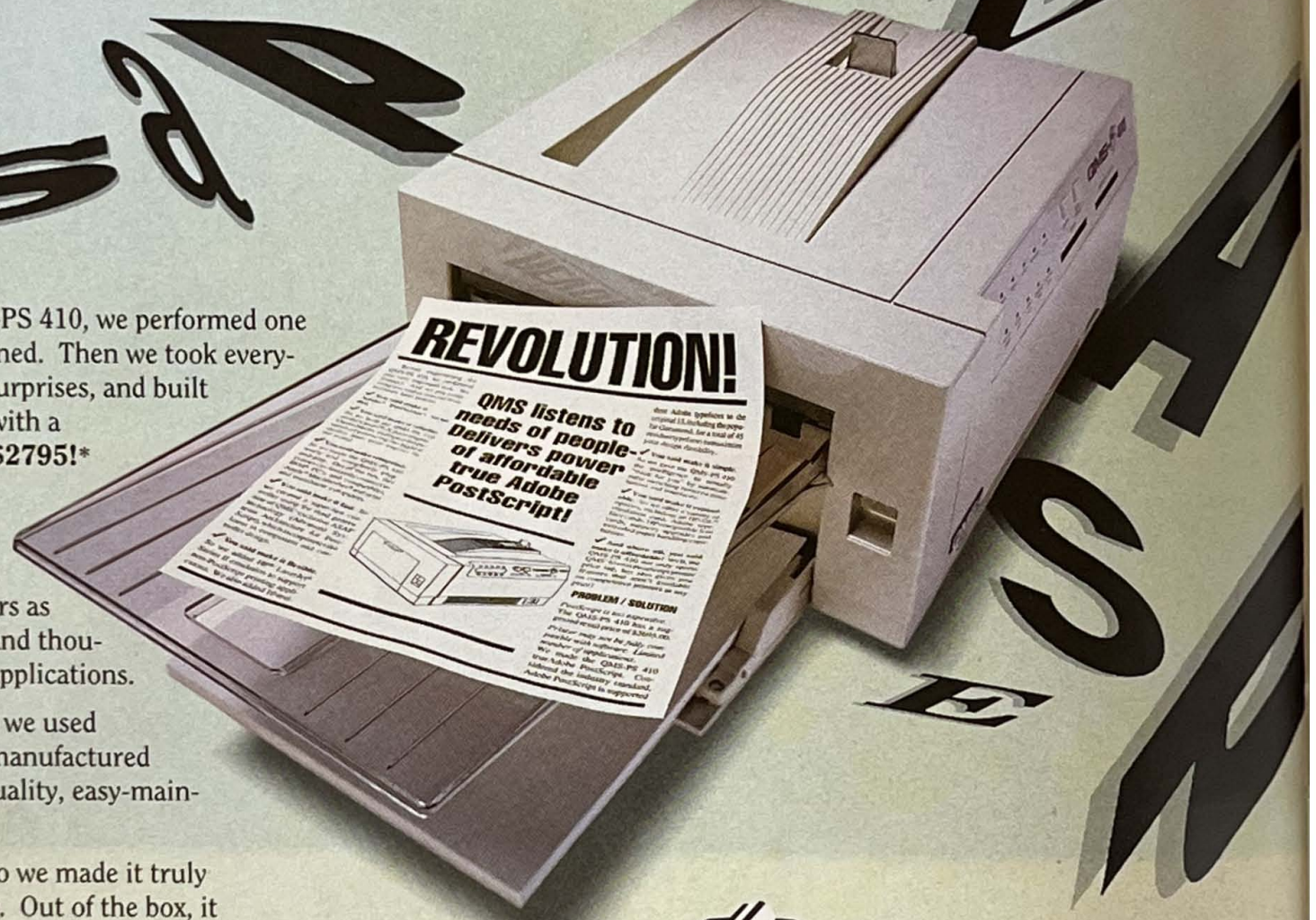

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GA

MACWEEK'S GRAPHIC ARTS REPORT

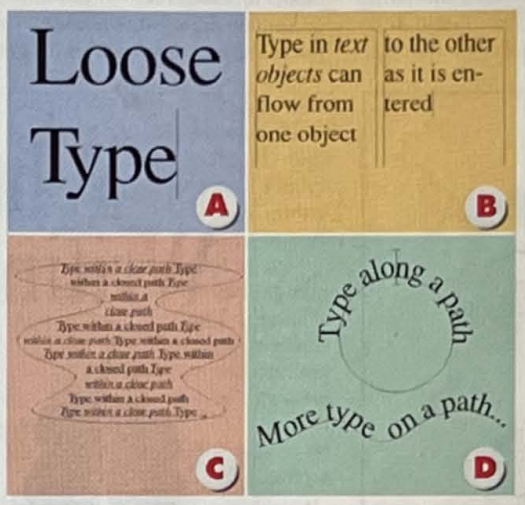
Moved by the Mac: A look at some of the new photo-realistic rendering and animation tools that enable Macs to compete against high-end graphics workstations. See Page 34.

Hands on with Illustrator 3.0

By Henri Froissart

Mountain View, Calif. — Adobe Systems Inc.'s long-awaited upgrade to its flagship application, Adobe Illustrator 88, due for release at the end of this month, delivers a host of new features that should fulfill — at least partially — the expectations of longtime users of the PostScript drawing program.

The write stuff. The development team's main efforts have been directed at improving the weak text-handling capabilities of the program. Illustrator 3.0 now boasts some of the features of the most sophisticated page-layout applications. Although it remains geared toward single- or double-page document processing (the maximum working area is limited to 18 by 18 inches), the program's new text-handling features make it suitable for almost any job within those constraints. The intuitive interface will allow designers ultimate control over the typographic look of a piece, in much the same way graphic artists were able to finely craft a graphic element with Illustrator 88.



Text can be entered freely on the page (A) or as a "text object" (B) or be made to fit within a shape (C) or along a path (D).

Here are some of the key text-handling improvements:

- Text blocks are no longer limited to 256 characters (there is no upper limit). Text files can be imported preformatted from various word processing packages, including Microsoft Word 4.0, MacWrite 2.0 and WriteNow 2.0.
- Text can be typed freely on the page or constrained to a text box (a metaphor for a column of type). Or it can be constrained to

See Illustrator, Page 33

SuperMac finds color match

By Bruce Fraser

Sunnyvale, Calif. — One frustrating aspect of working with color on the Mac is the lack of a quick, reliable means of proofing. Now, in a move that should greatly improve the usefulness of color printers as proofing devices, SuperMac Technology, a leading vendor of Mac-compatible color monitors, announced a system that allows calibration of color scanners, monitors and printers using a common color specification.

In a similar move, Radius Inc. expanded its color calibration system (see related story, Page 32).

To make its SuperMatch Professional Color Matching System an industry standard, SuperMac announced co-marketing agreements with color-printer, scanner and film recorder vendors, including Tektronix Inc., Eastman Kodak Co., Barneyscan Corp., Agfa Matrix, Howtek Corp., Seiko Instruments USA, Sharp Electronics Corp., Mitsubishi, QMS Inc., Mirus Inc. and Hitachi.

Peripherals vendors calibrate their devices to the SuperMatch color model in a process called characterization. The underlying technology, TekColor, was developed by Tektronix and is licensed by SuperMac. The TekColor specification is available free to peripherals vendors. SuperMatch will work with any

See SuperMatch, Page 33

Adobe PostScript printers: Setting your priorities

By Pamela Pfiffner

San Francisco — Now that true Adobe PostScript printers are readily available for well under $3,000, price is not the only factor influencing purchasing decisions. Users are starting to look beyond the price tag at what features these printers offer.

Engine speed. The new low-cost PostScript laser printers are called "personal" laser printers. With engine speeds rated at 4 pages per minute, they target individual users and small workgroups for whom speed is not as critical as low price.

While engine ratings are not a true indication of actual output speed, processor speed will affect printer performance.

Apple's Personal LaserWriter NT, priced at $3,299, uses Motorola Inc.'s 68000 chip running at 8 MHz, which on paper seems fairly slow compared with QMS Inc.'s new $2,795 PS-410, which uses a 16.67-MHz 68020. But the Apple printer includes a custom chip that boosts performance considerably (see MacWEEK, Aug. 7).

If speed is more important than true Adobe PostScript, however, Qume Corp. of Milpitas, Calif., offers the CrystalPrint Publisher II, a 6-ppm PostScript clone with a Weitek 32-bit RISC (reduced instruction set computing) controller. Speed has its price, though. The CrystalPrint Publisher II costs $3,995.

Fonts. Type-savvy users look at how many fonts ship with the printer. The LaserWriter Plus set of 35 fonts is standard on most of the new PostScript printers. Mobile, Ala.-based QMS, however, provides an extra 10 fonts from the Helvetica Condensed and Adobe Garamond families.

If basic fonts are all that are required, Austin, Texas-based Texas Instruments Inc.'s microLaser PS17, priced at $2,644 with AppleTalk, ships with 17 Adobe fonts and may be upgraded at a later date to the full 35 for $700.

Heavy font users may want to check out the Business LaserPrinter II series from GCC Technologies

See Printers, Page 33

Personal PostScript printers up close

PRINTER	PRICE	NOTEWORTHY FEATURES
Apple Personal LaserWriter NT	$3,299	Apple name, custom coprocessing chip
GCC Business LaserPrinter II	$2,399	SCSI port, low price
HP LaserJet IIP	$2,960*	HP name, huge DOS installed base
NEC SilentWriter2 Model 90	$2,495	6 ppm, PostScript Version 52.2
QMS-PS 410	$2,795	16.67-MHz 68020 processor, emulation switching, 45 fonts
Qume CrystalPrint Publisher II	$3,995	6 ppm, 32-bit Weitek RISC processor, PostScript clone
TI microLaser PS17	$2,644**	17 fonts (can be upgraded to 35 for $700), 6 ppm

* Includes AppleTalk and PostScript cards ** Includes AppleTalk

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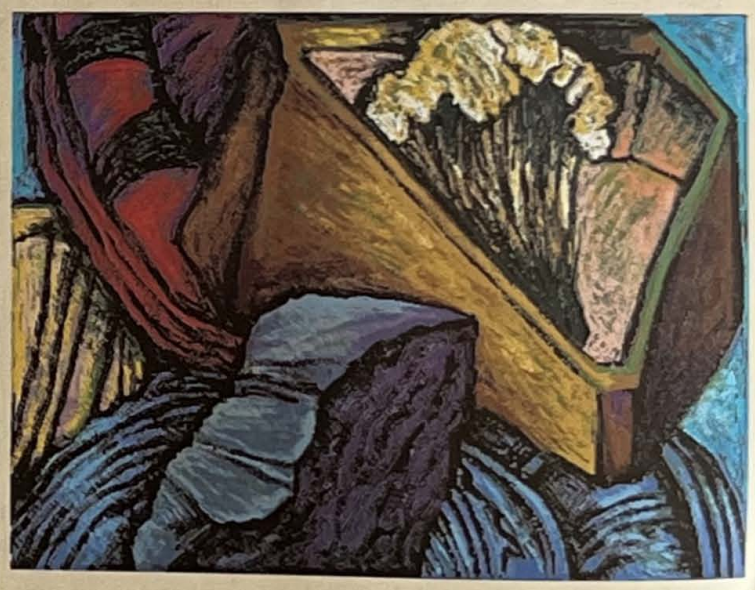

Creating fine-art effects on the Mac

New York — Annette Weintraub doesn't think that computer-generated art should look like it was generated on a computer.

In charge of the graphic-design and computer-graphics programs at City University of New York, Weintraub attempts to translate traditional techniques to create fine-art effects on the Mac II.

"Trapezoid," shown here, is an early example of computer-generated art that was inspired by Weintraub's painting. Starting with a grayish-green background in Electronic Arts' Studio/8, she then worked in layers, going from dark colors to light. To simulate pastel, she developed custom brushes in Studio/8 with a broken stroke.

Because of the luminosity of the monitor, Weintraub said, "light became very physical and tangible and influenced the way the image developed."

Using 100 percent rag paper for final products, she prints to a LaserWriter for black-and-white output and to a QMS ColorScript 100 for color. To prepare images for display, she enlarges the image in Aldus FreeHand and prints 16 8.5-by-11-inch segments of the image. She then pieces the tiles together to make a 30-by-40-inch image before laminating it.

Like most artists, Weintraub is concerned about the printed color output fading over time. To solve this problem, she's experimenting with different kinds of paper and color output technology, as well as hand coloring her printed images. — By Cate C. Corcoran

Radius opens color calibration system

By John Webster

Boston — In an effort to popularize its color calibration technology, Radius Inc. last week announced at Macworld Expo here that its PrecisionColor Calibrator software Version 1.2 now supports most Mac monitors, as well as software and output devices.

In addition to supporting Radius' line of monitors, the calibrator software works with Apple's 13-inch color monitor and displays from RasterOps Corp., SuperMac Technology and E-Machines Inc. "We're working with Nikon and other peripheral and software vendors because just as display characteristics vary, so do printer characteristics," said Terry Bailey, director of professional color systems.

Radius' approach to color calibration is a $695 hardware and software bundle that corrects inherent differences between on-screen images displayed on two or more monitors. In addition, the calibrator ensures that colors produced by an output device exactly match those on the monitor screen. The PrecisionColor hardware is a suction-cup-equipped device placed on the monitor screen to adjust colors to match another monitor screen.

Version 1.2 of the calibration software supports Pantone Inc.'s Color Simulations.

Third-party software developers supporting the software include Adobe Systems Inc., Letraset and Quark Inc. Printer manufacturers QMS Inc., Nikon Inc., NEC Technologies Inc. and Tektronix Inc. are also supporting it.

SuperMac last week introduced its own color calibration and matching system (see related story, Page 31.) Although both products offer color calibration between monitors and printers, only SuperMac offers additional color matching with scanners.

Radius can be reached at (408) 434-1010. □

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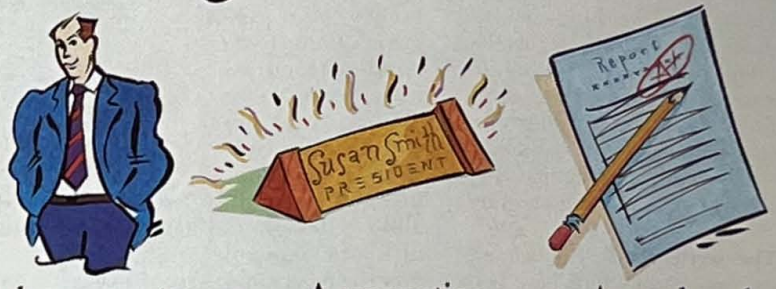

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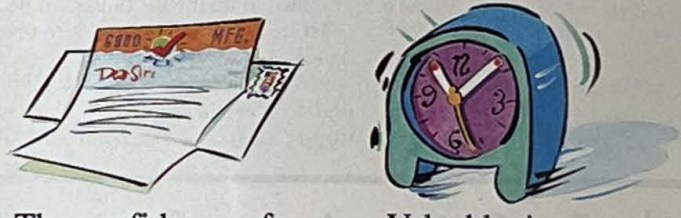

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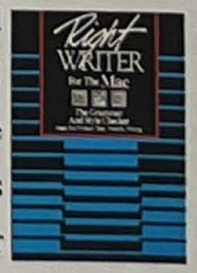

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Illustrator

From Page 31

fit within a predrawn irregular shape or to follow a path such as a circle or a wavy line.

- Text boxes can be linked, reinforcing the column metaphor. Edits are dynamically updated within linked text boxes.
- Type within a text block can have multiple attributes: Font, size, style, tracking, leading, indentation, paragraph spacing and paint attributes can be altered simply by highlighting portions of a block of type and applying the appropriate command.
- Manual fine-tuning of type is a cinch: Kerning, vertical shift and size adjustments can be performed on-screen via a single keystroke.
- Text can be wrapped around any shape, such as other type or a graphic element.
- Word and letter spacing, as well as hanging punctuation, can be specified in the Type dialog box.

Impressive as they are, these features don't make Illustrator 3.0 a substitute for a word processor. The lack of automatic hyphenation, the inability to view "invisible" characters, and the absence of basic editing functions such as search and replace will make you want to do the actual copy editing within a full-fledged word processing application and import the text once the copy has been finalized.

Hitting the charts. The second major improvement is the new charting function, which lets users automatically generate charts as columns (grouped or stacked) and pie, line, area or scatter graphs. Charts can be customized. For instance, you can pick a complex graphic element to be used as a column and have it automatically scaled to the values entered.

Data can be entered within the program in a spreadsheetlike template or imported in tabulated ASCII format. Because it automates a lot of tedious work, the charting function should come as a great relief to users who create informational graphics. However, its limitations, such as the lack of 3-D models and logarithmic scales, make it unfit for sophisticated scientific data mapping.

And all the rest. Other important new features include:

- **Automatic font-outline generation.** When running Adobe Type Manager 2.0, bundled free with Illustrator 3.0, any text block can be turned into fully editable outlines.
- **Direct Selection.** This new selection tool allows the user to select any anchor point of a grouped object without ungrouping it.
- **New path adjustment tools.** These allow easy editing of paths. For example, adding or deleting an anchor point or turning a corner point into a smooth one can be done with a single mouse click.
- **Compound-path definition.** Objects can be defined as "compound paths," allowing for "holes" within a solid area.
- **Selective previewing.** The Preview command can be set to display only currently selected items.

This column is too short to list exhaustively all the changes and fine-tuning that Adobe has included — or omitted — in this new release. Inexperienced users probably will be disappointed that there is still no way to edit a document while in preview mode, but all in all, the package comes across as a very complete and solid application. Within its one-page constraint, it may very well be the best design tool available.

Adobe Illustrator 3.0 will ship in September. The program is $595; current Illustrator owners can upgrade for $99 until Dec. 1.

Adobe can be reached at (415) 961-4400. □

Printers

From Page 31

Inc. of Waltham, Mass. Both the 4-ppm II and the 8-ppm IIS are equipped with a SCSI port that allows users to connect a hard disk for downloadable fonts.

DOS compatibility. As interplatform operability becomes more important, vendors are including emulation for Palo Alto, Calif.-based Hewlett-Packard Co.'s DOS-compatible LaserJet II printers. But how emulation and port switching are implemented varies widely.

Apple's Personal LaserWriter NT, for example, takes a simple though somewhat inconvenient approach. Users flip a SCSI ID-type switch on the printer's back to change modes. Other printers, such as TI's 6-ppm microLasers, have an LCD panel on the front with which users select emulation and interface.

These methods of emulation switching may appear clunky in contrast to QMS' approach. The PS-410 uses custom technology to switch automatically between emulations without user intervention by sensing the type of incoming data and adjusting accordingly.

If HP emulation is key, another way to go may simply be purchasing the HP LaserJet IIP with AppleTalk and PostScript for $2,960.

Price. If rock-bottom pricing is the bottom line, GCC's BLP II at $2,399 is the lowest-priced PostScript printer for the Mac so far.

But the recent spate of activity is only the beginning. Printer vendors are bringing down the price of 6-ppm printers, such as the new $2,495 SilentWriter2 Model 90 from NEC Technologies Inc. of Boxborough, Mass.

Quality. While printer vendors reel off statistics such as pages per minute and processor speeds, users still look at time-honored issues such as quality.

"Engine speed is not as important as print quality," said Stephen Roberts, owner of The Printer Works, a printer-only store in Hayward, Calif. "People are more interested in fineness of definition and consistent blacks." Since print quality can't be judged by reading a spec sheet, users still will need to do some legwork and see these printers for themselves.

Apple can be reached at (408) 996-1010; GCC at (617) 890-0880; Hewlett-Packard at (800) 752-0900; NEC Technologies at (508) 264-8000; QMS Inc. at (800) 631-2692, Ext. 922; Qume at (408) 942-4000; and Texas Instruments at (800) 527-3500. □

SuperMatch

From Page 31

device that uses the TekColor specifications.

SuperMatch has three components: a hardware monitor calibration device, a software color database and a replacement for Apple's ColorPicker Control Panel device (cdev).

The SuperMatch Display Calibrator works with any Mac II-compatible system, including monitors from Apple, E-Machines Inc., Radius Inc. and RasterOps Corp., in addition to SuperMac's own products. The product will be bundled with SuperMac's Spectrum/24 PDQ video cards and also will be available separately for $699 beginning Nov. 1.

The color database is contained in a Startup document (INIT) that users simply drop in their System folders. Color matching between peripherals such as scanners, color printers and film recorders that have been characterized for SuperMatch is done automatically. Because the color matching is done at the system level, it will work with any application.

The SuperMac Color Picker replaces Apple's ColorPicker. It addresses the problem of different color gamuts by comparing colors that can be displayed on the screen with those that can be reproduced by the output device. SuperMac also has become licensed by Pantone Inc. to include the Pantone Color Simulations (of its Pantone Matching System, or PMS) in the color wheel. Any Pantone-licensed application will be able to take advantage of the Pantone color function to ensure accurate screen display of PMS colors.

SuperMac will bundle its color wheel with its color graphics cards beginning in the fourth quarter. The Pantone module will be available in the first quarter of 1991. Users who purchase a SuperMac color graphics card after Aug. 1 will be eligible for a free upgrade of the color wheel and Pantone module.

The initial release of the SuperMatch Color Matching System does not address the problem of calibrating imagesetter output for color separations, but SuperMac promises to continue its work in this technology area.

SuperMac Technology can be reached at (408) 245-2202. □

SHARP ANNOUNCES ANOTHER BREAKTHROUGH IN COLOR SCANNING.

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Rendering, animation take shape on Mac

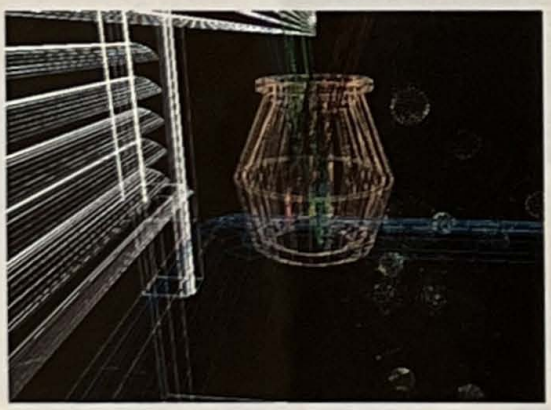
By Larry Stevens

Sophisticated rendering and animation functions are no longer confined to high-end graphics workstations.

Photo-realistic 3-D images are poised to enter the Mac arena in an animated way. A number of packages, either just out or due later this year, will give the Macintosh the rendering and animation capability formerly available only to high-end graphics workstations. StrataFlight (along with StrataVision 3d) from Strata Inc. of St. George, Utah; MacroMind Three-D from MacroMind Inc. of San Francisco; and Electric Image Animation System (EIAS) from Electric Image of El Monte, Calif., among others already on the market, combine sophisticated rendering and animation functions.

Another product, MacRenderMan from Pixar of Richmond, Calif., (see related story, this page) will provide a standard file format, the RenderMan Interface Bytestream (RIB), for photo-realistic 3-D images.

For those who don't need the capability to rotate images but want sophisticated texture and shading techniques, The Animation Stand from Linker Systems Inc. of Irvine, Calif., prides itself on having tools to create animations quickly. Because it eliminates the need to build wire frames, this 2.5-D package can cut hours off a rendering job.



As a first step toward making an image for animation, designer Jeff Smith constructed the wooden person and cup of pencils in points and wire frame using Swivel 3D. Smith then used texture maps made with Adobe Photoshop and Electronic Arts' Studio/8 for the wood grain and other textures, which he added to the models using MacroMind Three-D. He also assembled, colored and rendered the image in MacroMind Three-D. To add depth, Smith used the shadow-casting feature of MacroMind Three-D. This image is part of an animation Smith is developing in which the blinds go up, light spills across the figure and then the figure stands up.

Photo realism. Photo-realistic rendering lets designers create the illusion of transparency or reflectivity; with it you can add texture, highlights and reflections to objects. The images, rather than looking polygonal, seem smooth. These programs also provide sophisticated shading models, including Gouraud and Phong.

Jeff Smith of Infinite Point Design, a video-graphics company in Walnut Creek, Calif., creates boardroom- and trade show-type presentations for a variety of companies. For him, the arrival of these programs means that "artists can finally buy their own tools." Smith, a beta tester for MacroMind Three-D, worked for large design houses that could afford Unix workstations that cost more than $80,000 each. But with MacroMind Three-D, he said, he was able to set himself up in business for about $20,000 and still provide his clients with about 75 percent of the functionality of workstation applications.

How MacroMind Three-D works. This product will consist of three individual but related applications, called 3DWorks, RenderWorks and ImageWorks, that will function together under MultiFinder. 3DWorks will offer only modest wire-frame model-creation features but will be able to import models in Swivel 3D, Super 3D, DXF (Drawing Interchange Format), IGES (Initial Graphic Exchange Specification) and 3DGF (3-D Geometry File) formats.

Additionally, it will allow an unlimited number of cameras and lights for use in composing a scene and will feature spline-based path control that will let you simply

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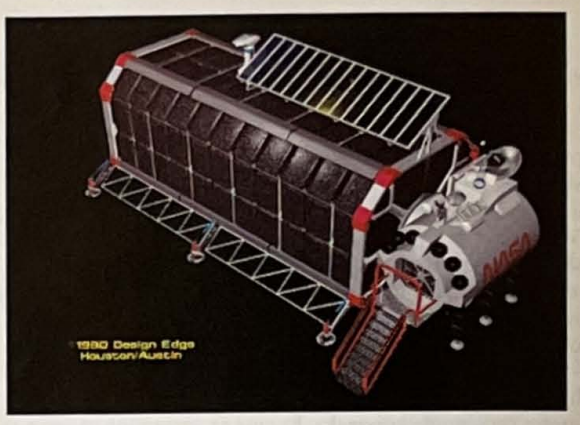

Johnson Space Center asked Design Edge of Houston to design and render the first lunar base. This image of the Initial Lunar Habitat base was designed by Nathan Moore, Nick Pausback and Lindsay Gupton. It shows the structure of the base without solar protection.

This is an image of the ward room in the Initial Lunar Habitat. Both images were laid out in 2-D with Claris CAD and then imported into Super 3D. They were imported into EIAS for final rendering. The rendering time for a 640-by-480-pixel, anti-aliased image is about 15 minutes (about 40,000 vertices).

File formats and MacRenderMan

As 3-D graphics software has emerged on the Macintosh, many competing scene-description file formats have been developed, making it difficult for users to move images from one graphics environment to another.

Although industry file-format standards such as DXF (Drawing Interchange Format) and IGES (Initial Graphic Exchange Specification) allow basic image file geometry to be interpreted by any application that supports them, the settings for camera positions, lighting and surface textures typically only made sense to the original application that was used to specify them.

The arrival of MacRenderMan (see MacWEEK, Aug. 7), if all the predictions turn out to be true, could have the same effect on 3-D image creation that Adobe PostScript had on font use and the development of font design. Developers of the major 3-D modeling applications obviously are taking the potential effect of the $795 MacRenderMan application seriously because almost all have announced that their products will support the RenderMan Interface Bytestream (RIB) file format.

Among these is Strata, which markets the StrataVision 3d modeling and rendering package. "We expect RIB to become an important standard, and so we'll be supporting it with Version 2.0 of our product," said Ken Perkins, director of public relations for Strata. "However, we've been getting a lot of calls from people who've taken a look at MacRenderMan and are asking us how they can use it to create all those wonderful 3-D images on their Macs. The answer is that they can't. You need a RIB-compatible product such as ours to use as a front end. There's definitely a lot of confusion about this right now."

MacroMind and Paracomp also will support the RIB format in MacroMind Three-D and Swivel Professional, respectively; Paracomp is expected to release Swivel Professional this month.

— By Robin Webster

This image was rendered with Pixar's MacRenderMan on a Mac IIfx for upcoming Pixar promotional use.

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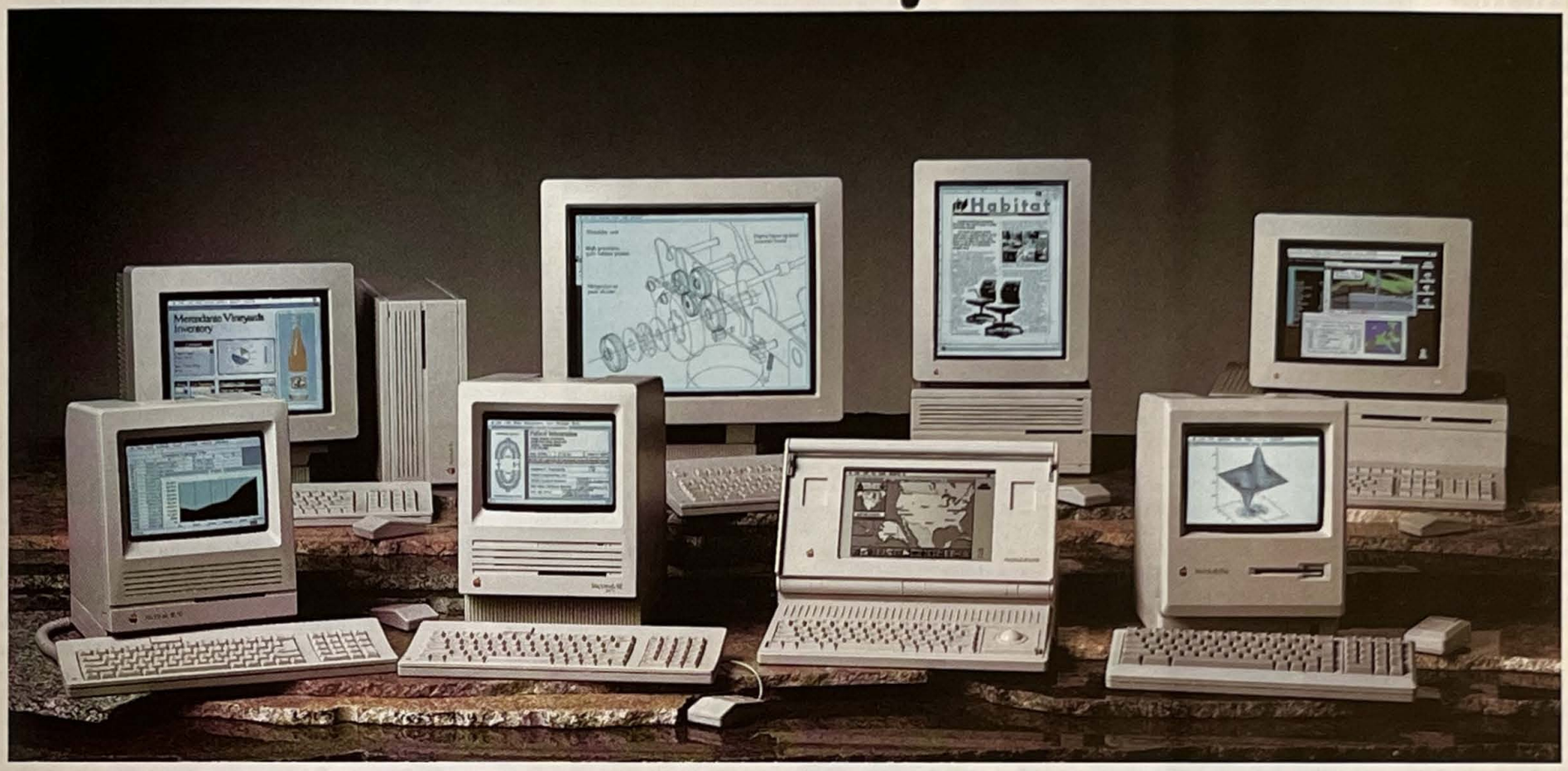

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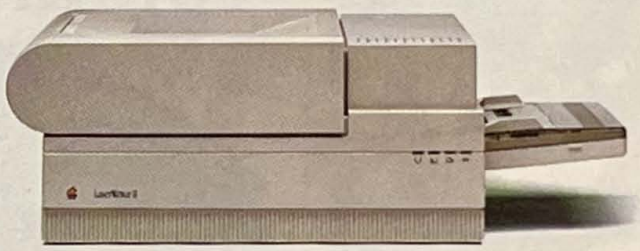

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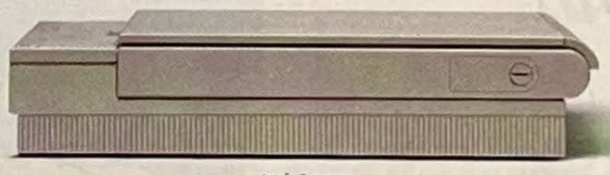

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This image of a trade-show booth was modeled and rendered in StrataVision 3d by Strata President Ken Bringhurst. The structure was created from parts inserted into the model multiple times. The S logo is a glow map, which makes it appear to have back lighting. Light sources were placed in the spotlight objects and inside the header parts to light the model. The model was rendered with the StrataVision 3d ray tracer.

Rendering

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point and drag a motion-path line at keyframe intervals to determine the movement of a particular object on-screen.

RenderWorks is Three-D's rendering engine of choice, but 3DWorks files will be able to be output as RIB files as well. According to Derek Lee, product manager of MacroMind Three-D, RenderWorks also will do some animation. However, you can save rendered files in TIFF format and bring them into MacroMind Director to continue your animations. ImageWorks is a 24-bit image-compositing system that will be used to assemble object renderings with background images and then save frames out to videotape.

The Hollywood connection. It should come as no surprise that film-industry special-effects consultants would have a jump on this product line. Michael Backes, a Beverly Hills, Calif.-based film production consultant, is a beta tester for EIAS, which at $7,495 is not only the most sophisticated, according to many, but also one

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ADDmotion: When 2-D is what you need

As anyone who has tried knows, creating animated 2-D graphics for HyperCard can be frustrating at the best of times. You can either create card-by-card animations to achieve a flip-book effect, or you can use HyperTalk programming to separately play animations created with products such as San Francisco-based MacroMind's VideoWorks or MacroMind Director.

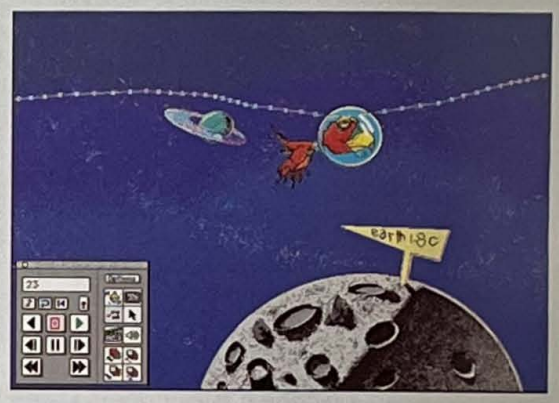
However, a new product called ADDmotion could be the answer to every stack developer's prayers. The $295 product from Motion Works Inc. of Vancouver, British Columbia, is a 2-D animation system modeled on MacroMind Director.

"ADDmotion is a stack that contains a variety of external commands (XCMDs) that enable you to create path-based 2-D animations," said Jim Secord, vice president of Motion Works. "After installing the XCMDs into any stack, you're able to use a combination of HyperCard and Aldus FreeHand-style techniques to create and edit objects. Double-clicking on an animation object, or 'actor button,' shows all the graphics available in a stack. If you want to create your own graphics, you can use our own Motion Paint." Motion Paint is a 24-bit color paint application that installs into stacks as a 30-Kbyte XCMD.

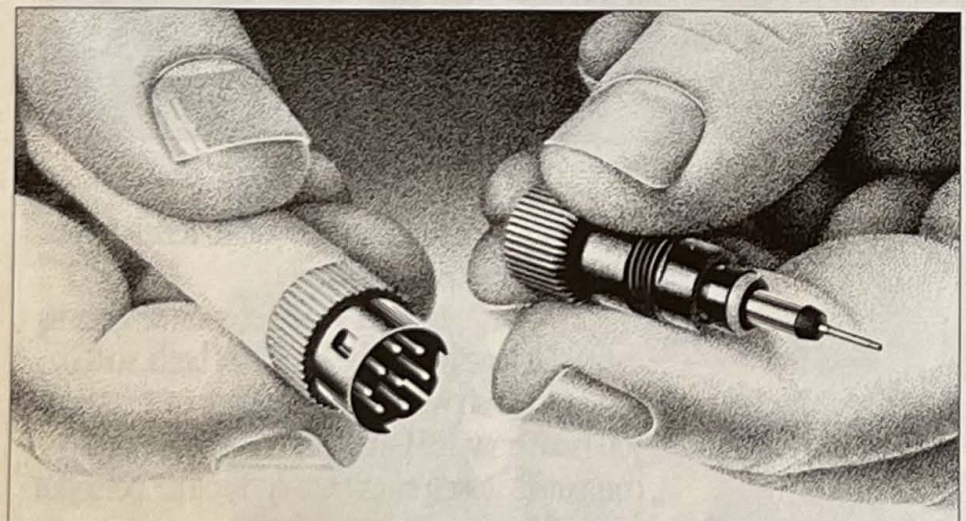
ADDmotion provides many important animation features, including "in-betweening," object acceleration and deceleration, and the capability to set up backgrounds and foregrounds. Once an animation has been completed, it is installed in a target stack along with the ADDmotion animation engine, another XCMD that's only 22 Kbytes in size.

"We're not trying to take on the big animation companies out there," Secord said. "Rather, we're concentrating on new users who haven't done any animation yet. However, ADDmotion does support and can run PICS format files as created by MacroMind Director."

Motion Works Inc. can be reached at (604) 732-0289. — *By Robin Webster*



The space bird shown above is part of a corporate presentation put together using Motion Works' ADDmotion. The light blue line is ADDmotion's path editor. The user clicks on the path, indicating the speed of animation by the distance between the clicks.



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Rendering terms

The intersection of three such dynamic areas as animation, video and computers was bound to produce innovative ways of doing things and new terms to go along with them. Here's a glossary of some of them:

Anti-aliasing: The process of blurring a jagged line to give the appearance of a smooth line.

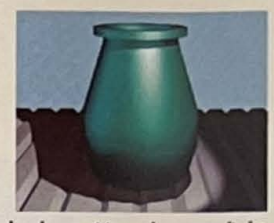
Bump mapping: A technique for simulating rough or physical textures on a surface by "perturbating" the surface-normal during Phong shading.

Flat shading: A shading technique that involves rendering facets of a polygonal model as a single color based on their orientation to the light and to the viewer. Objects appear to have facets similar to those of a cut diamond.

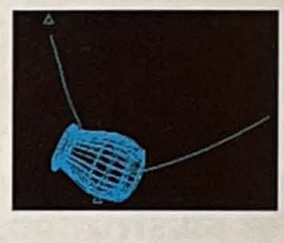
Gouraud shading: A smooth shading routine developed by Henri Gouraud in 1971 that computes the color and illumination at each corner of a polygon or on each side of a flat surface and then interpolates these colors across the surfaces.

In-betweening or tweening: The interpolation and automatic generation of a sequence of image frames between two keyframes.

Keyframe: An image frame that indicates the beginning or end of some significant event, typically motion, relating to the object or objects in the image.



Light source: A "smart" effect that gives the appearance of a light shining on a 3-D object in screen space, with appropriate reflections, color shadings and shadows. More than one light source can be applied to an image at one time.

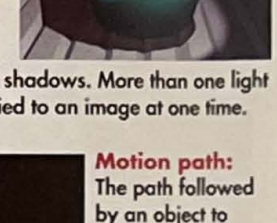


Motion path: The path followed by an object to be animated as defined by a spline control or Bezier curve.

Phong shading: A smooth shading technique developed by Phong BuiTuong in 1975. Phong interpolates the surface-normal at each pixel and does individual illumination calculations at each step. Phong is more accurate than Gouraud but is computationally much more intensive and can be hundreds of times slower to calculate.

Primitives: Fundamental graphic elements, such as a point, polygon or line segment, which can be readily combined with others to form more-complex images, or objects, in two or three dimensions.

Ray tracing: A technique that generates an image from a geometric model of an object. For each pixel in an image, one or more theoretical rays are cast from the viewer's eye point into the model to determine what part of the model should be displayed at that point in the resulting image. The key feature of ray tracing is that the ray through each pixel is allowed to reflect or refract off or through any surface encountered to simulate a true optical ray. In general, each ray breaks into two at each surface (the part reflected and the part transmitted), which is why ray-tracing computations can grow exponentially.



Reflection mapping: A method of simulating reflections on an object. The reflection map is typically created using a 2-D image, such as a PICT file. The reflection changes when the object moves or its environment changes.

Render: To draw an image as it actually appears rather than in schematic or blueprint form.

Texture mapping: The technique of wrapping a PICT file around an object to simulate a material or to give the object a pattern.

RENDERINGS BY JEFF SMITH

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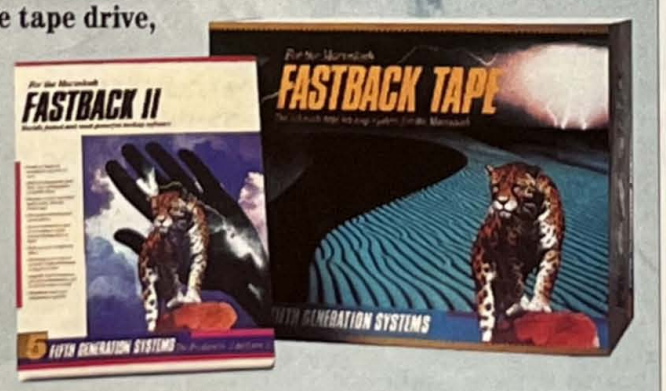

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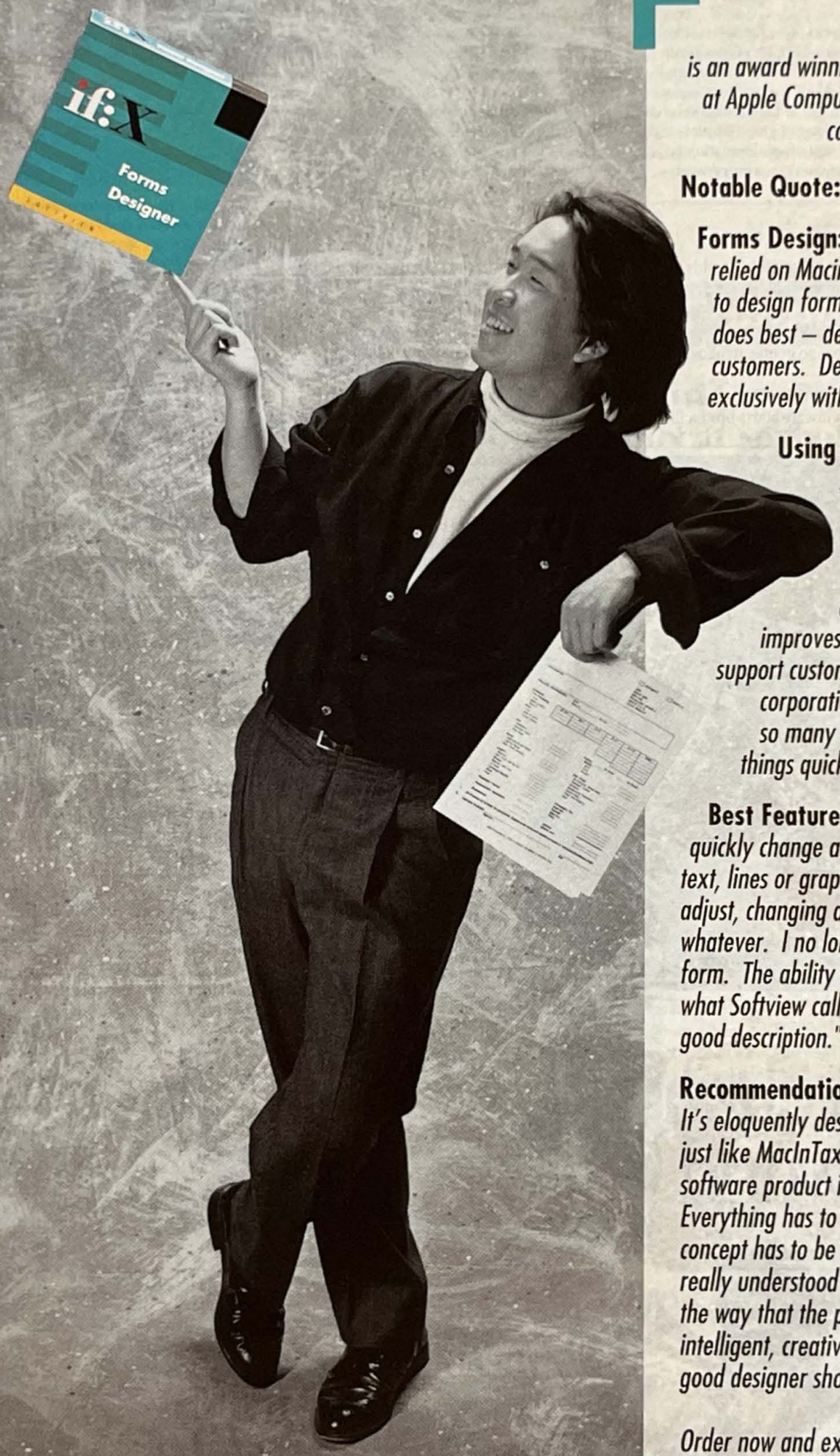

Clement Mok

is an award winning designer, former Creative Director at Apple Computer, Inc. and a leading proponent of computer-based design.

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S O F T V I E W

Rendering

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of the most expensive rendering and animation products.

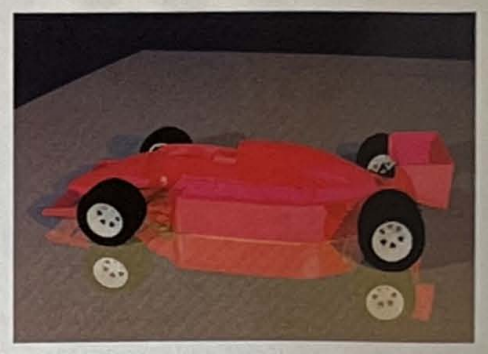
According to Backes, the high price tag will be worth it because "there is really no comparison between [EIAS] and traditional Mac 3-D products. They're as far apart as a pencil and a Mac II."

On Backes' new film, "Universal Soldier," due out this fall, he used EIAS to preview special effects. "With EIAS, we have fast animations and rendering, and realistic texture mapping — things we never had before," Backes said.

How EIAS works. Configured similarly to MacroMind Three-D, EIAS consists of three separate but MultiFinder-linked applications: Transporter (geometry file transfer); Electric Image (image and animation setup); and Camera (rendering engine). Model manipulation and motion-path creation is managed via a four-window arrangement.

Transporter can open a wide variety of file formats and convert them to Electric Image's own FACT format as well as to others, such as CAD-3D, DXF, Sculpt 3D and Swivel 3D. This is important because EIAS offers no modeling features; it is a pure rendering and animation system.

Older products won't fade away. While these new rendering and animation packages are generating a lot of user and media excitement, older applications such as



PAGECRAN, a French computer graphics company, created this image of a Lotus sports car using Design Dimensions to model and tweak the surface of the car. In Dimensions Presenter, the car's surface and the floor were each assigned a reflectivity value and the final ray tracing was done with Dimensions RayTrace.

DynaPerspective from Dynaware Corp. of Foster City, Calif., and the Dimensions suite from Visual Information Development Inc. of La Puente, Calif., still are often cost-effective and time-saving solutions. Stuart Levine, manager of computer development at ad agency BBDO New York has been using Dimensions Presenter for two years to create product demonstrations. However, he looks forward to the new photo-realistic packages. "New software [such as] EIAS won't replace Presenter," Levine said. "We will use it for different kinds of animations — the very high-quality work that used to have to be done by a video production house."

While photo-realistic software has provided Macintosh users with a new level of functionality, there are still hardware limitations that prevent the Mac from replacing workstations in all applications.

Because traditional 3-D Mac modelers are relatively easy to work with, they often are used as a source of objects for photo-realistic 3-D images. Products such as Dimensions Presenter, Silicon Beach's Super 3D and Swivel 3D from San Francisco-based Paracomp Inc. provide rendering capabilities and the capability to create simple animations by means of "in-betweening" (see glossary, Page 38). But they are not really up to creating smooth-shaded, photo-quality images.

With photo-realistic software, on the other hand, you either start with a 2-D view, typically using a draw program, then use your modeler to generate the third dimension, or more typically, you build an object within the modeling application itself using geometric shapes that you join together in building-block fashion or mold and reorient using the various specialized editing tools provided.

You then set up the object "scene" by specifying the point of view (camera view); the type, number and position of lights around the object; and the object's color, surface texture and reflectivity, among other things. For example, Chipp Walters of Design Edge, a Houston-based industrial design firm, uses Macs and 3-D software to illustrate product designs for clients such as Dell Computer Corp., IBM Corp., Texas Instruments Inc. and Apple and has recently designed a full mock-up of the first lunar

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"We've seen the future and it is Adobe Photoshop," Bob Clifford, Landor Associates. "It adds a dimension of realism we couldn't get any other way."

Bob Goodman, The WhaleSong Project: "The learning curve is so gentle, it follows me as I explore."

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Photography: NASA, Curtis Fukuda and Henrik Kam

At computer publications like *MacWorld, MacUser, MacWeek* and big city newspapers like the *San Francisco Examiner* and the *New York Times,* Adobe Photoshop is the production tool of choice. We even hear Yale University is adding a graduate course based on the Adobe Photoshop program. (Don't send in your application until you try our easy tutorial.)

"With Photoshop, we can scan, manipulate and separate a variety of images," Sanjay Sakhuja, Digital Pre-Press, a Macintosh service bureau for desktop publishing and electronic prepress. "Our customers no longer have to use high-end, expensive equipment."

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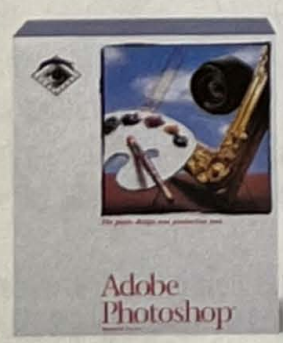

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base for NASA with EIAS. Walters also uses Claris CAD and Electronic Arts' Studio/8 to create the drawings and Super 3D when object modeling is required. Final rendering, however, is done using Electric Image.

"Some of the 3-D images we create are very large — they contain up to 100,000 polygons — but Electric Image renders them very quickly; it's the fastest by far," Walters said. "It allows us to produce the images that we need in a very straightforward and accurate manner."

Still some limitations. While photo-realistic software has provided Mac users with a new level of functionality, there are still hardware limitations that prevent the Mac from replacing workstations in all applications. Backes, for example, says that while he uses the Mac to preview special effects, it still doesn't have the computational power to display full-color, high-resolution graphics good enough for on-screen work.

The biggest problem that Infinite Design's Smith has found is the Mac's limited addressable memory. "When I was using Unix workstations, I could just load all the frames into memory," Smith said. "I never had to pay attention to it. With the Mac, I'm always afraid that the Out of Memory box will spring up."

Smith has an interim solution: When he has to render a long animation, he rents a second Mac IIci and uses two machines in tandem. Despite the hardware limitations, users agree that the Macintosh is now the most cost-effective way of creating photo-realistic animations. Hardware advances such as increased memory and accelerator boards specifically for animations eventually will eliminate the major disadvantages of using a Mac instead of a workstation for animations. But as Smith says, "If you want to be at the forefront of this technology, you can't wait until every single duck is in place." □

Robin Webster contributed to this report.

This image of an airline ticket office was done in Dyna-Perspective. It is part of an animated walk-through that let the client company conceptualize the real look and feel of the office plan without the use of a physical model.

Product Info

BYTE BY BYTE CORP.
Sculpt 3D: $1,500
Sculpt 3D with textures: $2,500; expected to be available Sept. 1
Sculpt 3D with animation: $3,500; expected to be available by the middle of the fourth quarter
(512) 343-4357

DYNAWARE CORP.
DynaPerspective: $995
(415) 349-5700

ELECTRIC IMAGE
Electric Image Animation System: $7,495
(cannot do modeling)
(818) 444-1819

LINKER SYSTEMS INC.
The Animation Stand: $7,495
Paint Only version: $3,750
(714) 552-1904

MACROMIND INC.
MacroMind Three-D: $1,495
(415) 442-0200

PARACOMP INC.
Swivel 3D Version 1.1: $495
Swivel Professional: $695; expected to be available mid-August
(415) 956-4091

PIXAR
MacRenderMan: $795 (renderer only)
(415) 236-4000

SILICON BEACH SOFTWARE
Super 3D: $495
(619) 695-6956

STRATA INC.
StrataVision 3d: $495
(801) 628-5218

VISUAL INFORMATION DEVELOPMENT INC.
Design Dimensions: $595
Dimensions Presenter: $595
RayTrace Dimensions: $995
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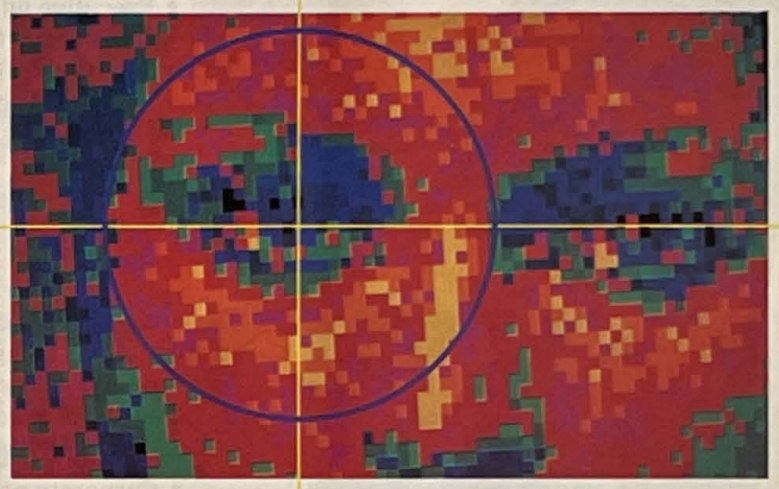

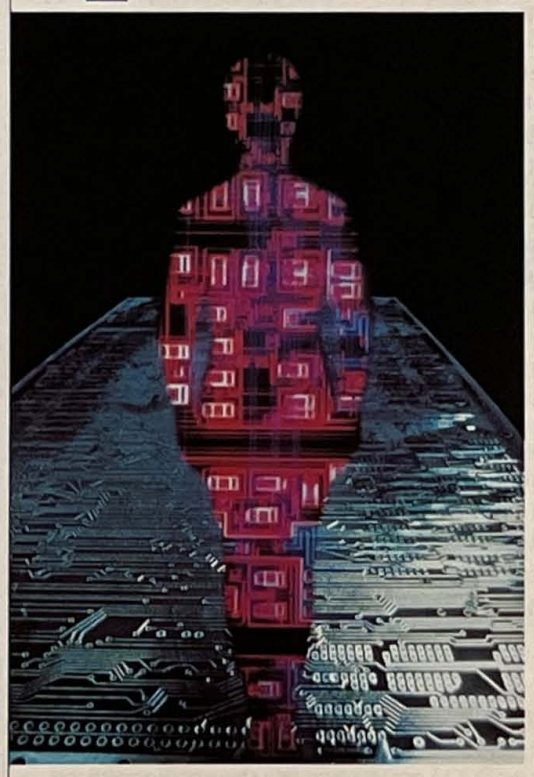

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Thursday, Oct. 4	10AM - 6PM	8AM - 6PM
Friday, Oct. 5	10AM - 3PM	8AM - 2PM

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Information
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SEYBOLD SEMINARS

Boldface EZRA SHAPIRO

The role of the portfolio in hiring a designer

Writing a résumé is an art form. It requires a special sort of creativity, the ability to amplify and rephrase the truth into a personal sales pitch. It's a lot more impressive to claim you "expedited a massive client communications effort" than to state you hauled mailbags to the post office, right? Anyone who has ever tried to crawl up the ladder by changing jobs has wrestled with this. The single rule is that you must not tell a verifiable lie; beyond that, anything goes.

My constant refrain both in this column and in my presentations to novice desktop publishers is that it's wise to hire a professional designer when you're uncertain of your own graphic abilities, especially when facing a critical project. I'd also tell anyone with bad cold symptoms and a fever to see a doctor.

And for the most part, selecting a freelance design consultant is a simple process that requires little more than rudimentary interviewing skills, common sense and an eye for visual content (see Boldface, "How to hire a professional designer," MacWEEK, May 22). However, the same kind of truth stretching that goes on in résumé writing takes place in the world of graphic arts, only the vehicle is visual rather than written. In place of the typed bio, the artist displays the portfolio.

Directed or implemented? Non-designers, beware! Although an honest, experienced professional will take great pains to fill his or her portfolio with samples that represent a uniquely personal vision, it's considered perfectly aboveboard to present pieces on which one participated as part of a team. A stunning layout in a junior designer's portfolio may represent nothing more than the person's ability to follow orders; the idea, the whole look of the work could have come from a superior or even an outsider.

Publishing firms regularly hire design firms to create formats for periodicals, then use less-expensive in-house staff to execute them. How much creativity goes into day-to-day operations varies widely. What role did your candidate play in the design process? Creator or drone?

In advertising, a smashing piece is rarely the product of one lone art director. There are copywriters, creative directors, account executives, agency big shots and clients involved in dictating the final version. Again, it falls on you to determine the source of inspiration.

Note that within the design community itself, it is understood tacitly what percentage of the work in a given portfolio should be creative. A senior art director interviewing someone for a midlevel job would expect a portfolio to demonstrate execution skills with few flashes of genius. An employer without that understanding, though, risks being thrown off the track by contributions from people other than the candidate. You're probably safe enough if you have a preexisting design you want to use unchanged, but if you need a new look, you must be sure of your prospect's talent.

Ask questions. Even if it's uncomfortable, you've got to ask pointed questions: Is this your design? Tell me again what you did on this piece. Did you choose the typefaces? Who supervised the photography? How long did this take you? Did you come up with the concept for this illustration, or did you give the artist free rein? If you had this piece to do over, what would you change?

Fortunately, desktop publishing is providing a tremendous tool for making portfolio evaluation less hazardous to the potential client. A few years back, it was extremely expensive for a young designer to produce finished-looking experimental work. Nowadays, however, anyone trying to make the jump from execution to creation can pump out speculative pieces intended to demonstrate solo talent.

Obviously, much depends upon your careful assessment of character. And, of course, certain characteristics are outside the realm of the portfolio; just as I've never seen a résumé entry for "health" that listed anything other than "excellent," I've never heard a designer admit to being sloppy about deadlines. An interview, after all, is the proper place to determine such things — as it is to ask about portfolio pieces, rather than flipping the pages with your mouth hanging open. □

AMAZING STORIES.

Information Management

The HyperMedia Group, Emeryville, CA

The HyperMedia Group used interactive color, multiple windows, and list fields to build this catalog with on-line ordering for Electronic Catalog Corp.

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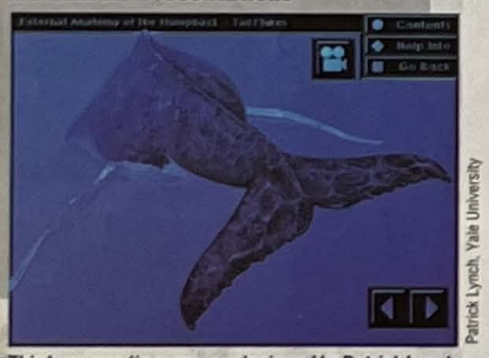

Patrick Lynch, Yale University

This hypermedia program, designed by Patrick Lynch of Yale University, uses sound, video, and full-color graphics in an interactive front end to a video disc.

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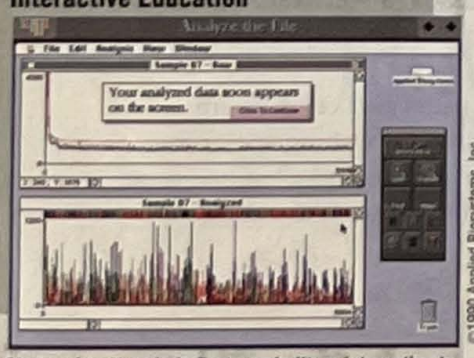

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Shuemaker-Honebein Partners built an interactive tutorial for Applied Biosystems, Inc., to teach researchers how to use the firm's DNA sequencing system.

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Guest Viewpoint WENDY RICHMOND

Restraint is the better part of multimedia

Last month, I went to a presentation about a new on-line service. I'd heard about the service, and I was looking forward to a description from the developer himself. Right at the beginning of the presentation, he connected to the service, went through a simple screen menu and began to use the service, showing off its features. It looked great. But just as I started thinking, "Yeah, I could use this," he stopped the live demo. With an ominous grin, he said, "My staff put together a little story to explain the product better." He then launched a multimedia, animated detective cartoon/musical. The drawings were ridiculous, the jokes were stupid, and the music was nerve-racking.

Now, I can't recall a single feature of the on-line service. All I remember is a very bad ad for MacroMind Director.

I'm as excited about multimedia as you are, particularly about its possibilities for enhancing visual communication. But I'm dismayed when enthusiasm for technical gymnastics wins out over clarity.

I'm not saying that you should trash your overlay cards and sound digitizers; I'm saying that you should use restraint. Here are some ground rules:

▸ **Media overload equals information overload.** The result of bad multimedia is exponentially increased information overload. Not only do we have to read all that information, now we have to wade through the swamplands of muddy media, too. Rather than clarify information, bad multimedia smothers it with rotating logos and electronic Bach.

▸ **Your audience isn't stupid.** Sometimes I think the Mac community has gone icon and metaphor crazy. If a simple word gets the point across, then use it. I recently saw a system for cataloging books. It could have been simple. Instead, I was faced with an entire library building, complete with high ceilings, tiled floors and curtained windows. I was also equipped to get around this edifice with an icon of a magnifying glass, a bicycle and a movie projector. Please. When you open a book, do you need a road map and a steering wheel to enter a chapter?

▸ **Your audience wants sophistication.** The audience — the entire, worldwide audience — is very savvy when it comes to media. It's used to watching TV and movies with superb production values. The multimedia pieces you produce on the Mac are (consciously or unconsciously) being compared with Hollywood and New York productions. You should produce pieces that are appropriate in terms of production and delivery equipment, length, technical effects, and budget. If you try to create an outrageous effect without the resources to accomplish it properly, it will bomb in more ways than one.

▸ **Beware of your own excuses.** I recently witnessed this interchange: A designer showed a colleague a color printout of a logo. The colleague said, "Nice design. But it looks awful!" The designer responded, "What do you expect from 300 dpi?"

If 300 dpi doesn't do the job, don't use it. Your audience doesn't care that you performed miracles on a Mac Plus; they want information in the best form possible. That means the form that best communicates the message.

▸ **You're not a Renaissance man or woman.** No offense, but multimedia requires multitalent, and I don't believe that one person can embody all the skills necessary to produce a really good multimedia piece. Experience is required in graphic design, writing, video, music, interface design and much more.

Many of you would-be multimedia producers don't have the expertise to create an effective presentation. I'm not blaming you for that. I am blaming you for lack of restraint. If you can't collect the appropriate team of expertise, then, please, limit your liabilities! Make your multimedia presentation "unimedia."

Use talent. And when you can't get talent, use restraint. □

Wendy Richmond, co-director of the WGBH Design Lab in Boston, works with a team to produce multimedia products. She is the author of "Design & Technology: Erasing the Boundaries."

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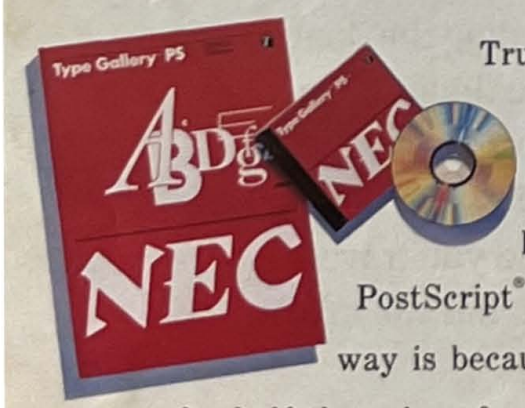

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COMPARISONS

Hand scanners go head-to-head: Upgrades, new models enter field

More gray levels, better editing

By Mary Jane Westland

A year ago, we reviewed two pioneering hand-held scanners for the Macintosh: LightningScan from Thunderware Inc. and ScanMan from Logitech Inc. Both of these scanners have been upgraded to capture more gray levels, and both have improved editing features. There also are several newer entries in the hand-held scanner market, including The Complete P.C. Inc.'s The Complete Half-Page Scanner/400 and three models from Marstek Inc., the Mars 105, 128 and 800.

LightningScan 400. Like the other hand-held scanners reviewed here, LightningScan 400 from Thunderware is a SCSI device. Scanning is done to RAM, so the more memory you have, the larger the image you'll be able to capture.

All the scanners we looked at have convenient external SCSI ID settings, but only the LightningScan has external termination as well. External termination makes SCSI chain problems easier to deal with.

LightningScan's scanning software consists of an application, ThunderWorks, and a desk accessory, LightningScan, which differ slightly in capabilities. The DA does not allow printing and includes no editing tools, but it does true-gray conversion and can flip or rotate selections.

Except for the Mars 128 scanner, all the units reviewed scan a 4-inch-wide strip, with scan length limited by available RAM. Resolution choices for these range from 100 to 400 dpi, and scan modes are line art and three gray dither patterns. These dithers are defined by a 6-by-6-pixel matrix and can be converted to true grays.

With its new Join feature, ThunderWorks also can splice two scanned strips together for a final image wider than 4 inches. All settings for resolution, scan mode and brightness are made on the scan head and are automatically polled by the scanning software. This allows you to change settings in midscan for special effects.

As with all these scanners, the unit is aligned over the artwork by looking through a window on the scanner head and squaring up an edge with the artwork below. The LightningScan package includes SnapGuide, a two-part gadget that allows you to align its straight edge with a vertical guideline on your original for a straighter, squarer scan. The addition of rear wheels also makes pulling in a straight line easier than with the original LightningScan.

Scanning speed for all the scanners ranged from about 3 inches per second at 100 dpi to 0.7 inches per second at 400 dpi. LightningScan includes a scan-speed indicator light on the top of the scan head that flickers when you're pulling too fast to accurately capture an image. In most cases, you get sufficient warning to slow down before losing data.

While you're scanning, an on-screen gauge indicates how much RAM remains. If you're going to use the Join feature, neither of the two scans should take more than half the RAM available.

ThunderWorks includes a full range of editing tools. Dithered gray images can be converted to 37 levels of true-gray information and edited at 256 levels of gray. Grays for editing are chosen from a palette or picked up from the image itself. Brightness, contrast and gamma curve can be adjusted in the gray-map editor. There are also 13 filters for image enhancement.

Editing can be done in any view, from 25 percent to 800 percent. Unfortunately, you cannot edit in one view and watch your progress in another.

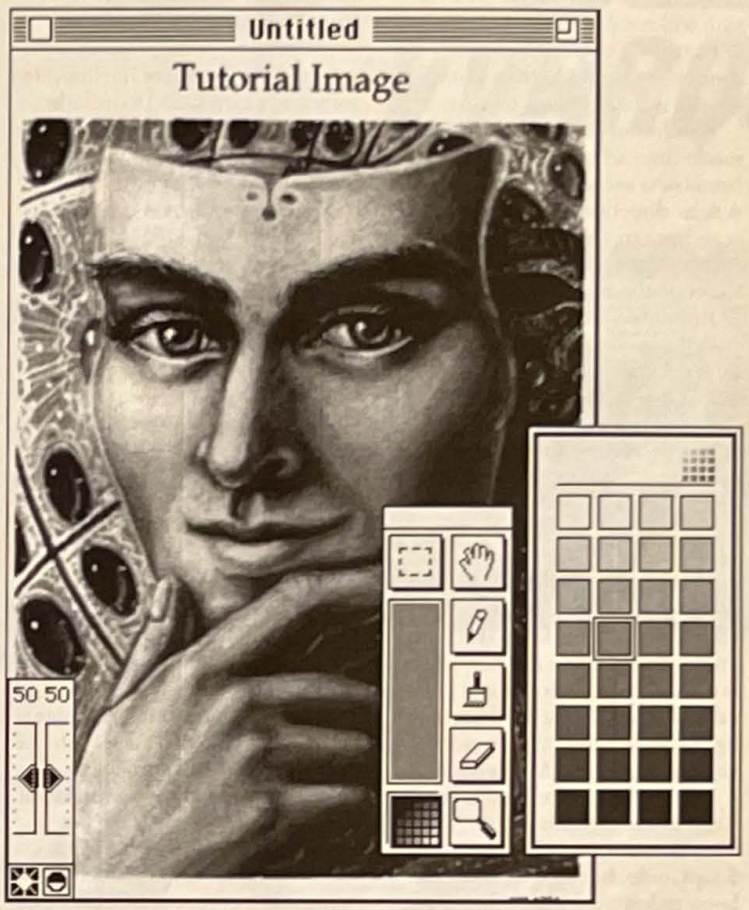
Because it allows you to capture images wider than 4 inches, the Join command is essential for optical character recognition work. When joining scans, the right-hand image can be moved and stretched with special tools (an important feature, since it's nearly impossible to produce perfectly parallel scans).

ThunderWorks saves and opens a wide range of formats. You also can open more than one document at a time.

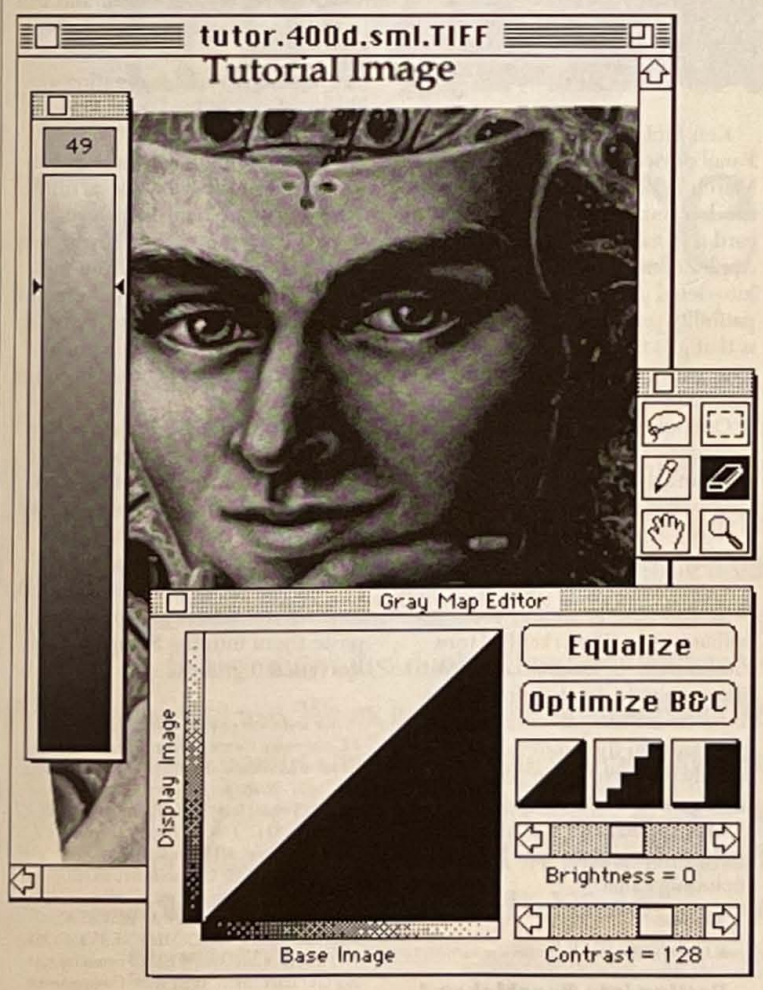
The documentation includes a good tutorial, with a photograph for experimenting with gray-scale scanning and a good discussion of gray-scale editing and dither options. Technical support at Thunderware has always been helpful.

ScanMan Model 32. Logitech has upgraded its ScanMan by adding rear wheels and the capability to capture 32 levels of true-gray information. ScanMan now also does gray-scale editing, and the software has been improved tremendously.

See Scanners, next page



ScanMan, the application for Logitech's ScanMan Model 32, shows images in up to 32 shades of gray. The tool palette, gray palette, and brightness and contrast sliders are shown here.



ThunderWorks, the scanning application for the LightningScan 400, took this tutorial image, scanned it at 400 dpi and converted it to gray scale, using 6-by-6-pixel dithering patterns. Shown are the editing tools, gray-map editor and gray palette, all in floating windoids.

TONY RINALDO

Variations on a hand-held scanner theme: (from left) Thunderware's LightningScan, The Complete P.C.'s Half-Page Scanner/400, Logitech's ScanMan and Marstek's Mars 128.

Scanners *From previous page*

Software consists of a Startup document (INIT), ScanMan Driver, and application and DA versions of the ScanMan software. You can scan and edit from either the application or the DA, but the DA version will not print. The DA also will not work with MultiFinder; it requires more RAM than MultiFinder normally allots to DAs.

Resolution (100 to 400 dpi), mode (line art or three dithers) and brightness are set on the scan head. A scan-direction feature lets you scan from top to bottom, left to right or right to left without having to rotate the image after scanning.

Resolution and brightness are polled automatically by the scanning software. Scan Line Art and Scan Gray are separate commands that yield very different results. Some interesting special effects can be achieved by mixing and matching these modes. Scan Gray with line-art mode, for instance, yields a high-contrast image rendered in gray and white that can be manipulated with the gray-scale editing tools. A 32-level, true-gray image results when a dither pattern is chosen and the Scan Gray command is used. Dithered images can be obtained with a dither mode and the Scan Line Art command.

Alignment of ScanMan is the same as for LightningScan. ScanMan does not include a gadget like SnapGuide, but its scan head has been redesigned with a flatter edge to allow you to pull against a user-supplied straight edge.

A scanning-speed indicator light on top of the scanner works much like LightningScan's. In addition, ScanMan has an on-screen gauge for monitoring the RAM available to complete a scan.

Basic editing tools are included in a tear-off menu. The paintbrush has 30 brush shapes and 32 true or dithered grays. Brightness and contrast can be adjusted on gray-scale images after they've been scanned. Editing can be done in any view, from 25 percent to 800 percent.

(At press time, Logitech announced Version 2.1 of the ScanMan software, which is said to include scan "stitching" capabilities similar to ThunderWorks' Join command as well as improved editing tools.)

ScanMan saves and opens MacPaint, PICT and TIFF formats, but only one document can be open at a time.

The documentation is excellent. It has detailed explanations and power-user tips.

Half-Page Scanner/400. The Complete P.C.'s The Complete Half-Page Scanner/400 (CHPS/400) was first released for the IBM PC, and unfortunately the software shows it. Everything functions reliably, but several features that Macintosh users have grown to expect are missing. However, the unit works with both Macs and PCs; if you buy either unit, you can upgrade it to work with the other computer.

The unit's SCSI ID is set externally. Termination is internal, however, and only one SCSI port is provided, so the scanner must be the last device in your SCSI chain. This could be a problem if you have other internally terminated SCSI devices.

CHPS includes an INIT that serves as a driver and a scanning application, SmartScan. There is no DA version of SmartScan.

Scan length is adjustable up to 14 inches, with total image size limited

See Scanners, Page 52

In summary: Hand-held scanners

Thunderware's LightningScan 400 tied for first in the hand-held scanner race with its external SCSI termination, Join command, capability to convert gray dithers to 37 levels of true gray and edit in 256 levels of gray, redesigned scan head with rear wheels, and SnapGuide aid to straight scanning.

Logitech's ScanMan Model 32 was LightningScan's equal, with the capability to scan and edit 32 true-gray levels; a redesigned scan head with rear wheels for straighter scanning; scan direction and transparent/opaque selection features; and extensive options for saving, printing and copying. Both the top contenders had excellent scan quality.

The Complete P.C.'s The Complete Half-Page Scanner/400 can be driven by both Macs and IBM PCs and compatibles with the addition of an interface kit and was the least expensive of the scanners reviewed. However, it had internal SCSI termination, unclear scan-head markings, rudimentary editing tools and only one SCSI port.

Marstek's three models, the 105, 128 and 800, all use the same ScanLink software ported from the PC version. ScanLink proved extremely unreliable and produced unacceptable results. The 128 scans up to 5 inches wide, compared with 4 inches for all the other models tested, but the extra width makes it hard to hold. The Mars 800 has scan resolutions up to 800 dpi, but suffers from the same software problems as the other Mars units. Even excellent image-editing software (Digital Darkroom from Silicon Beach is included) cannot redeem these products.

Hand-held scanner features

Scanner	LightningScan 400	ScanMan Model 32	Half-Page Scanner/400	Mars 105 & 128 Hand-Scanners	Mars 800 Hand-Scanner
Resolutions (dpi)	100, 200, 300, 400	100, 200, 300, 400	200, 300, 400 500, 600, 700, 800	200, 300, 400	100, 200, 300, 400,
Scan modes	Line art, 3 halftone dithers, 37 true grays converted in software	Line art, 3 halftone dithers, 32 true grays converted during scan	Line art, 3 halftone dithers	Line art, 3 halftone dithers (16 dithered gray levels)	Line art, 12 halftone dithers (up to 65 dithered gray levels)
Editing modes & tools	B/W and 256-grays; gray-scale brightness, contrast and gamma correction; 13 filters	B/W and 32-grays; paintbrush; gray-scale brightness & contrast	B/W; 5 filters for gray dithered images	No tools (Cut, Copy, Paste, Rotate and Flip only); no dither editing	No tools (Cut, Copy, Paste, Rotate and Flip only); no dither editing
Formats saved	MacPaint, ThunderScan, PICT (b/w or gray), TIFF (1-bit, 4-bit or or 8-bit)	MacPaint, PICT (1-bit or 8-bit), TIFF (1-bit or 8-bit)	MacPaint, PICT, TIFF, EPSF	PICT, TIFF, PostScript (MacPaint & EPSF do not work)	PICT, TIFF, PostScript (MacPaint & EPSF do not work)
Formats opened	Same as above	Same as above	PICT, TIFF	TIFF	TIFF
Splice scans?	yes	yes	no	no	no

MacInTouch

RIC FORD AND RICK LEPAGE

MaxAppleZoom INIT fattens up screen space

PRODUCTS

Boosting display area. MaxAppleZoom is one of the best "hacks" we've ever seen for the Macintosh. It's a Startup document (INIT) that expands the resolution of Apple's classic Mac II video card.

The program was written specifically for the original Toby video card that Apple shipped for its 13-inch color monitors, and it does not currently support either the Mac IIci's built-in video or the latest generation of Apple video cards.

We tested the software with the Toby card driving a Sony CPD-1302 color monitor and driving a standard Apple 12-inch monochrome display.

If you have one of these original Apple video cards, MaxAppleZoom boosts the screen size from the normal 640 by 480 pixels to 704 by 512 pixels (about 20 percent more information).

The change is systemwide, so word processors, spreadsheets, graphics programs and other programs can take advantage of the extra display space.

MaxAppleZoom is a tricky piece of software, and it may not be compatible with every program or hardware configuration. Version 1.2, the latest we've seen, fixes some earlier problems with various versions of Apple's video cards and tries to shut itself off if it detects incompatibilities.

We encountered system freezes at start-up time when trying to use the program with a new-generation Apple video card. We also saw some strange artifacts on the screen during start-up time, but they didn't seem to affect normal operations. Using one-bit video also causes extraneous lines and strange visual glitches to appear.

GORDON STUDER

Ken McLoed's MacEnvy Control Panel device (see MacWEEK, March 7, 1989) is the handiest tool for determining exactly what video card is installed, and the MaxAppleZoom documentation goes into detail about how to avoid compatibility problems. One limitation is that it is not supposed to work with multiple monitors (we did not test that configuration).

Overall, the program works quite well with the standard Apple hardware and a variety of applications. It provides an appealing extra measure of visual elbowroom that can be very useful.

Naoto Horii is the hacker behind MaxAppleZoom, and his program is shareware. Remarkably, Horii did his work in Belgium, with very little access to Apple information or to the on-line networks that programmers in the United States use heavily for exchanging technical information.

MaxAppleZoom is available from user groups and on-line services, including Zmac.

BUGS & TIPS

Pasting into PageMaker 4. It cannot really be called a bug, but some users of Aldus Corp.'s PageMaker 4.0 found a hidden "gotcha" when they upgraded from Version 3.0 of the program.

A frequently used feature of PageMaker 3.0 was its capability to select multiple items and Cut or Copy them to the Clipboard. If you copied these groups to the Scrapbook, you could paste them into a new PageMaker document and still be able to manipulate each individual object. Many people found this feature useful for creating a library of specialized page templates and designs.

PageMaker 4.0 also has this feature, but the program uses a different file format than the previous version. For this reason, if you copy a PageMaker 3.0 group from the Scrapbook into a document created with PageMaker 4.0, it gets pasted as one PICT, and the individual items in the original group become inaccessible.

Aldus technical support reports that the only work-around for this is to create a new PageMaker 3.0 publication and paste the contents of the different Scrapbook windows into the file. You can then import the file into PageMaker 4.0, reselect the different groups and paste them into the Scrapbook as Version 4.0 groups.

We welcome comments at MacWEEK, 4 Cambridge Center, Third Floor, Cambridge, Mass. 02142; (617) 497-2600; (617) 497-2646 (fax). Electronic mail: CompuServe: (Ric Ford) 72511,44; (Rick LePage) 76117,1765; GEnie, America Online, Delphi, MCI Mail, PAN: MACWEEKBOS; Connect: RICFORD, RICKLEPAGE; AppleLink: ("Attn: MacInTouch" in subject): MACWEEK. Internet: 72511.44@COMPUSERVE.COM.

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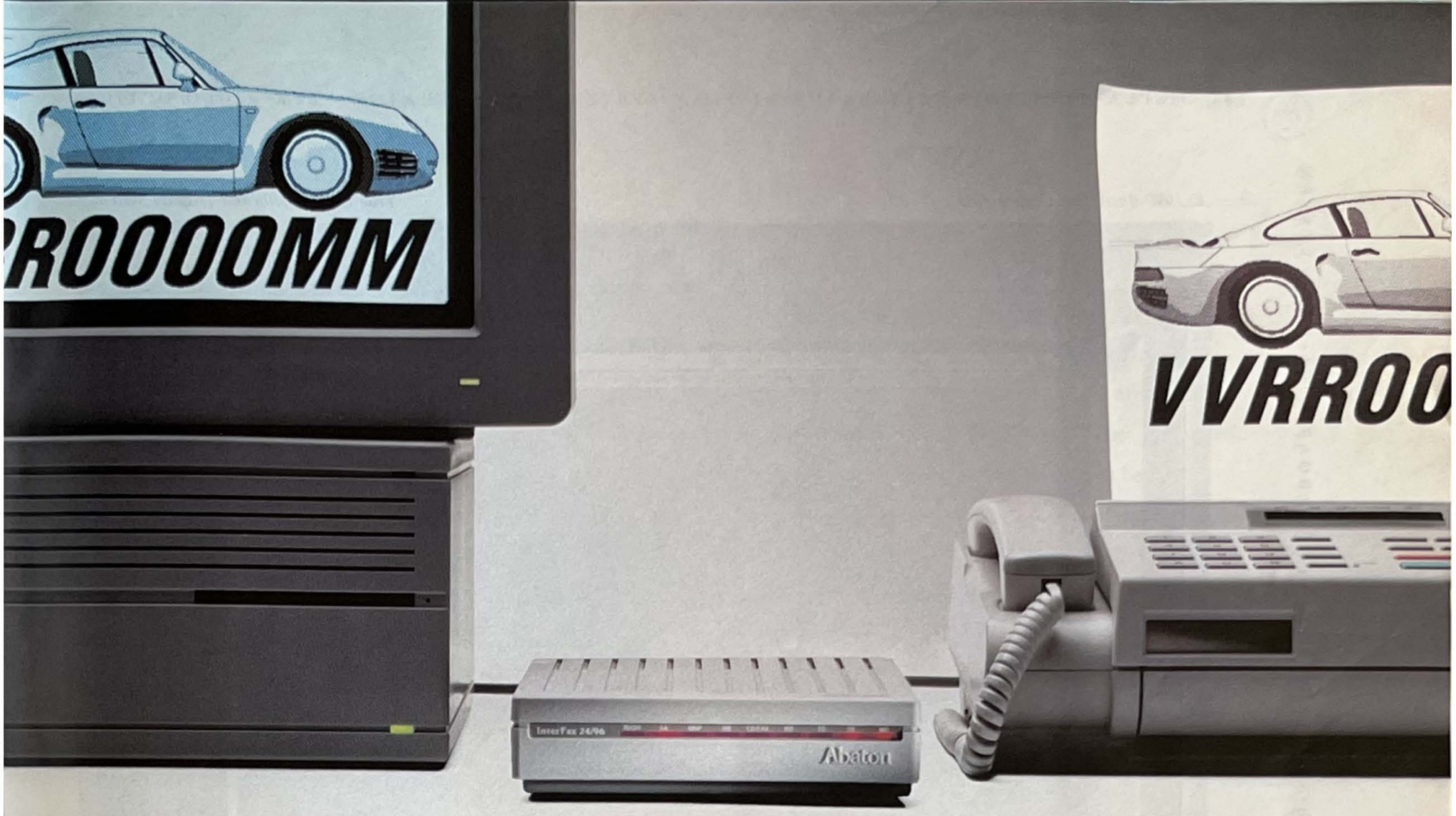

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Owing to variations in human perception, color, like beauty, is very much in the eye of the beholder. This being true, if we want to communicate accurately about color, we need to convert the language of art into something considerably more objective and exact: the language of science.

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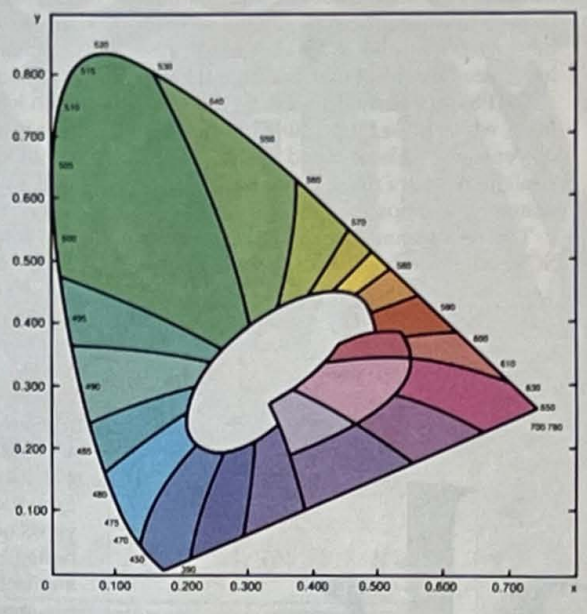
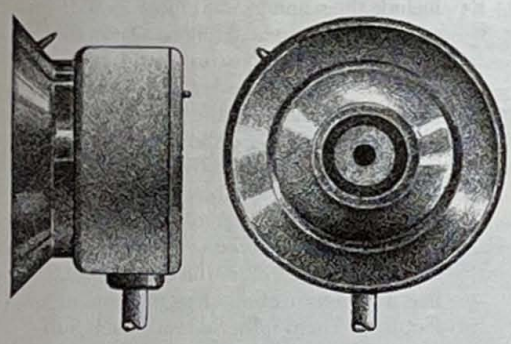


The True Color Calibrator is based upon the CIE model which mathematically defines all available natural colors.

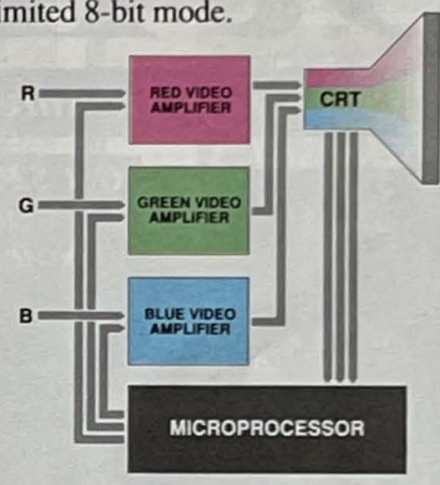
This self-calibration is performed automatically, *75 times a second* — well before the sharpest eyes would detect any variation in color. The net result is that roses and violets on a True Color Calibrator display will always remain true to their mathematically-defined color values. Whether three minutes, three days, or three months from now. And the system has a communication port which can send these scientifically precise formulas to other monitors and printers.



Unlike other optical sensors, RasterOps' Optisense is thermally stabilized to insure consistently accurate measurements.

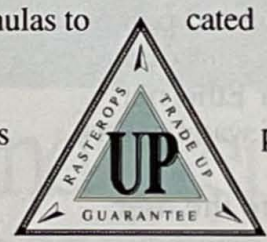
The True Color Calibrator also comes with an Optisense® optical sensor which, used just once a month, adjusts the system's self-calibration scheme for the inevitable aging of screen phosphors.

The makers of other calibration systems may make a big to-do about the optical sensor they provide. This is understandable, since that's all they provide. With no microprocessor in their display, they cannot offer automatic, continual calibration. The moment you remove the sensor, colors begin to drift and fade all over again. Which means their system is only as accurate as the number of times *per day* you stop and use the sensor. What's more, they recommend that calibration be performed only while in the more limited 8-bit mode.



Only the True Color Calibrator has a built-in microprocessor which continually recalibrates the display—75 times per second.

In deciding which calibration solution is in fact the most effective, it might be helpful to know that the world's most sophisticated electronic pre-press systems use the same microprocessor-controlled calibration we do. And further, that *MacUser* has hailed the RasterOps True Color Calibrator as "the most sophisticated monitor ever built".



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Scanners

From Page 48

by available RAM. Resolution (200, 300 or 400 dpi) and brightness are set on the scan head. Scan modes are line art or three halftone dithers. Halftones can be converted to four, 16 or 256 true grays after scanning, and resolution also can be reduced during gray-scale conversion. Resolution reduction increases image processing and printing speeds and reduces the size of gray-scale images displayed on the screen while not affecting the size of the printed version of the image. There's also a scaling feature that will resize the image by a percentage or by dimension.

The resolution setting on the scan head and in SmartScan must match, or CHPS will not work. SmartScan automatically polls the hardware for brightness and mode; we wish it also polled for resolution.

With CHPS, image size must be defined before scanning. However, there is no feedback on required vs. available RAM while you're setting up the scan size. Once the scan size and resolution are defined, SmartScan calculates the amount of RAM needed. If there is insufficient RAM, you get an error message but no clue as to what size or resolution scan would fit into available RAM.

CHPS has a fairly flat edge on the scan head, which makes it possible to use a thick object such as a book to aid in scanning straight. An extra roller in the back of the scanner also helps.

There's a scanning-speed indicator on the SCSI interface, but it doesn't seem to give as much warning of potential data loss as LightningScan's and ScanMan's, making it more difficult to recover in midscan.

SmartScan's editing tools and features are rudimentary at best. There is no tool palette with icons; rather, the tools are simply named in a menu, and the keyboard shortcuts are decidedly non-mnemonic. Editing tools work only in line-art mode.

For editing gray-scale images, there are five filters: Smooth, Lighten, Darken, Detect Edges and Sharpen. Brightness can be adjusted only via the filters, and contrast and gamma curve cannot be adjusted at all.

There are three views: Fit in Window, Dot for Dot and Fat Bits. No line-art mode editing can be done in Fit in Window. All the line-art editing tools and gray filters work in Dot for Dot view. Only the pencil works in Fat Bits, and Fat Bits view is not available in gray-scale mode. You can open multiple views of the same document, and editing done in one window can usually be viewed in another by forcing that window to refresh.

SmartScan saves in all the major file formats but opens only PICT and TIFF files.

We found technical support hard to reach, but the company did return our call and attempted to solve problems we had converting dithered scans to gray scale. The Complete P.C. also has a fax line and a 24-hour bulletin board for tech support.

Mars 105. The Mars 105, 128 and 800 from Marstek are all driven by the ScanLink SCSI interface and software. Mac and IBM PC interfaces for these scanners can be purchased separately. The Mac versions of these units include the scanner, SCSI interface, Marstek scanning software and Digital Darkroom.

The ScanLink software that drives these scanners has been ported from the PC platform, and it shows in the worst way. There is not a single keyboard shortcut, the Delete key doesn't function as the Clear command, Undo isn't always enabled, Paste doesn't work the way it does in other Macintosh programs, and the software's just plain ugly. The Marstek hardware, on the other hand, looks like it's been carefully designed and manufactured. Thankfully, Silicon Beach Software's Digital Darkroom, an excellent product, serves as the image-editing software.

The Mars 105's scanning modes are the same as those of the other scanners we've looked at: line art or three dithered gray patterns for 16 dithered levels of gray. ScanLink cannot convert dithered gray information to true gray scale. Resolution choices are 200, 300 or 400 dpi.

Resolution, scan mode and brightness are set on the scan head. However, the software requires you to manually poll the scan resolution before scanning. If you then change the resolution on the scan head, the software will crash. You also have to set the scan width and length before scanning, and you cannot stop before you've reached the full length.

Alignment of the scanner with the original is similar to that of the other scanners mentioned. While Mars 105 ships with a metal scanner guide that fits into a groove in the scan head, we found a book to be more reliable.

The Mars 105 has no scanning-speed indicator to warn you of an impending data overflow and consequent image distortion. Even worse, while the scanning speeds noted in the Mars specifications matched those of the other scanners, only rarely were we able to pull the scanner slowly enough to avoid overflow distortions.

ScanLink includes no editing tools. Scan manipulations are limited to the standard Cut,

See Scanners, Page 54

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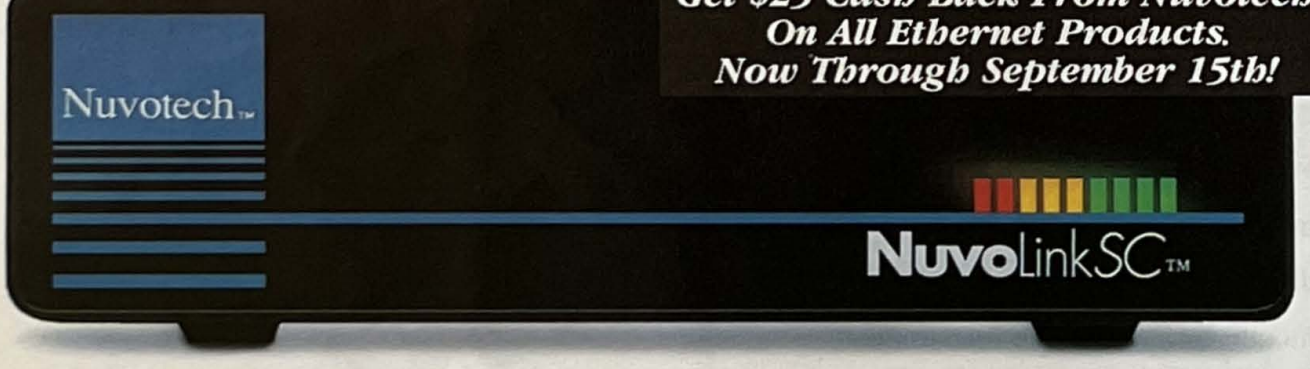

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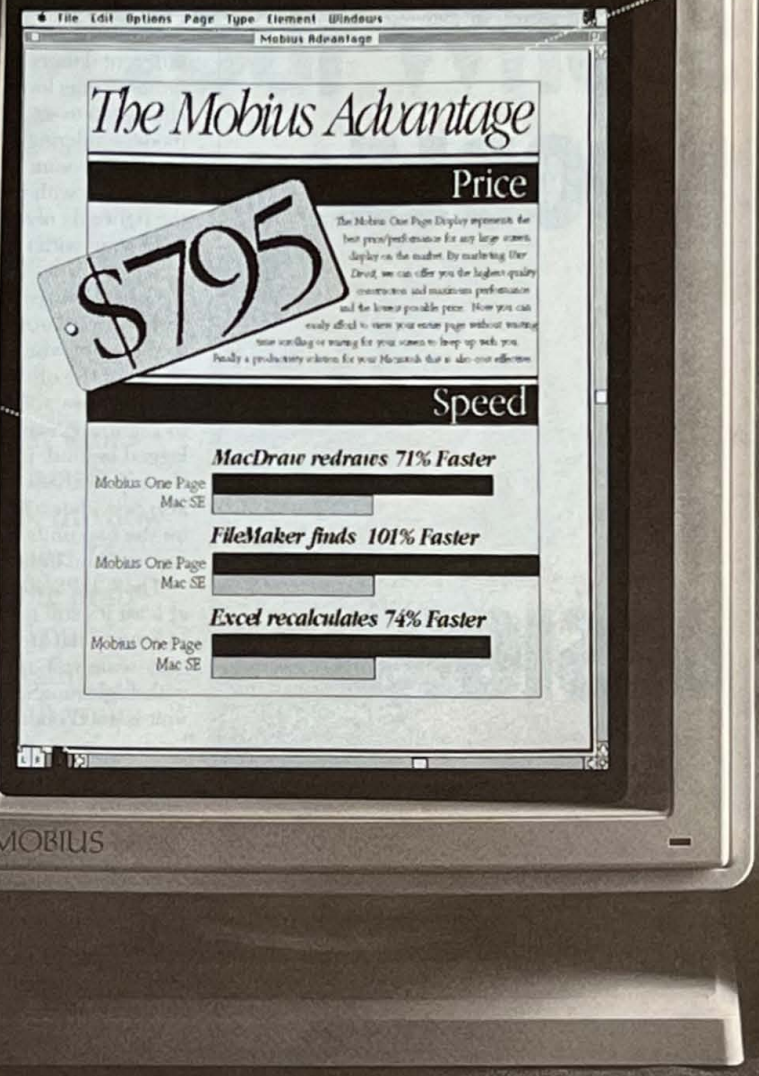

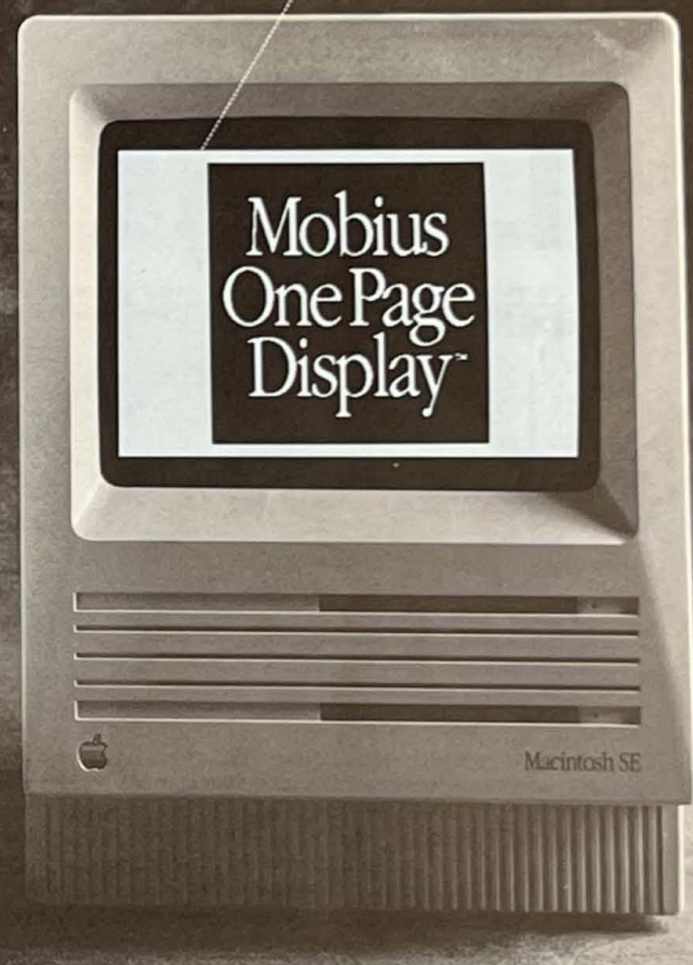

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Scanners

From Page 52

Copy, Paste, Rotate, and vertical and horizontal flip. However, Paste works only if you first have a target area selected. If the image on the Clipboard is of a different aspect ratio than the target area, it will be distorted to fit into the target. And if the pasted image isn't positioned correctly, you can't move it. You cannot Undo the Rotate command.

Views include Fat Bits, Full Size and Actual Size. Zoom In goes to a maximum of 800 percent (the same as Fat Bits), and Zoom Out goes to 6.25 percent. Editing can be done only in Full Size view.

ScanLink's manual claims that it saves in MacPaint, PICT, TIFF, Encapsulated PostScript and PostScript formats. However, we were unsuccessful at saving in either MacPaint or EPS formats. The manual also claims that ScanLink can open files of any type, but we could open only TIFF files.

ScanLink's documentation is poorly written. Explanations of important setup steps are skimpy, and too much is left for users to figure out on their own. There are even several serious errors. We were able to reach tech support, but while the company was aware of the bugs we reported and said they were being worked on, it could offer no work-arounds.

Mars 128. The Mars 128 uses the same SCSI interface and software as the Mars 105, but Mars 128 can scan images up to 5 inches wide. However, there is a bug that consistently causes a one-eighth-inch black stripe to appear down the right edge of any image scanned at full width, effectively reducing the full scan width to 4.85 inches. The Mars 128 is also significantly harder to hold because of its extra width.

Mars 800. The Mars 800 uses the same SCSI interface and software as the other Marstek models. It has essentially the same scan head as the Mars 105 with some electronics added to boost scanning resolution and the number of dither patterns available. DIP switches on the bottom of the scanner can be set to choose between groups of resolutions: 100 to 400 dpi or 500 to 800 dpi. Once the resolution group is chosen, the actual resolution is set on the side of the scan head. Two other DIP switches set one of four dither matrices. The dither pattern is then chosen with the mode switch on the side of the scanner. Twelve different dithers are available, with up to 64 dithered gray levels. Another DIP switch allows you to set the scanner to scan in inverse mode, rendering a negative of the original image. The same one-eighth-inch black stripe that we got with the Mars 128 appeared down the right side of each of our full-width, 4-inch-wide scans with the Mars 800.

Conclusions. Thunderware and Logitech have improved their hand-held scanners to the point where they are several lengths ahead of the others in the race. With its just-released new software, ScanMan catches up to LightningScan in the only areas in which it lagged behind: image-editing features and the capability to join scans. Both companies also provide excellent support. Image quality on the two units was comparable, and we'd recommend either for purchase.

The CHPS/400 places a distant third, but at least it's still in the race. Editing features in SmartScan are extremely limited, and gray-scale scan quality is poor in comparison with LightningScan and ScanMan. But the unit is good enough for "position art," at least; we were able to get consistently usable images from it. With the purchase of an additional interface, this scanner can be used in mixed PC and Mac environments with either computer. And this is the lowest-priced unit. We look forward to further improvements to the SmartScan software.

The Marstek scanners never made it out of the starting gate; we can't recommend any of them in their current incarnations. In addition to the bugs already mentioned, we suffered numerous crashes and scan distortions. □

Mary Jane Westland is a graphic artist, trainer and writer in Southborough, Mass.

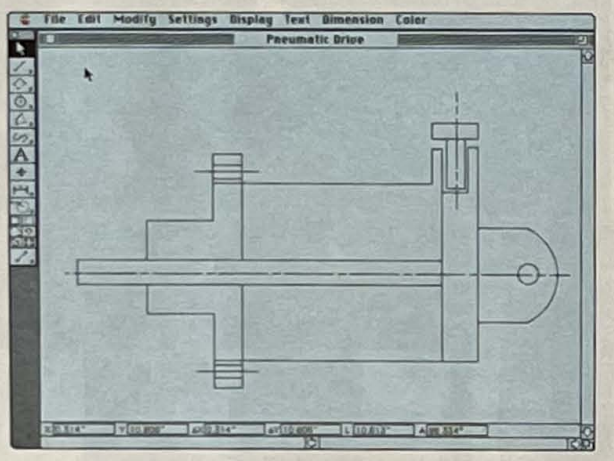
Product Info

LOGITECH INC.
ScanMan Model 32: $499
6505 Kaiser Drive, Fremont, Calif. 94555; (415) 795-8500

MARSTEK INC.
Mars 105: $459; **Mars 128:** $499; **Mars 800:** $549 (all include Digital Darkroom)
17795-F Skypark Circle, Irvine, Calif. 92714; (714) 833-7740

THE COMPLETE P.C. INC.
The Complete Half-Page Scanner/400: $399
1983 Concourse Drive, San Jose, Calif. 95131; (408) 434-0145

THUNDERWARE INC.
LightningScan 400: $495
21 Orinda Way, Orinda, Calif. 94563; (415) 254-6581



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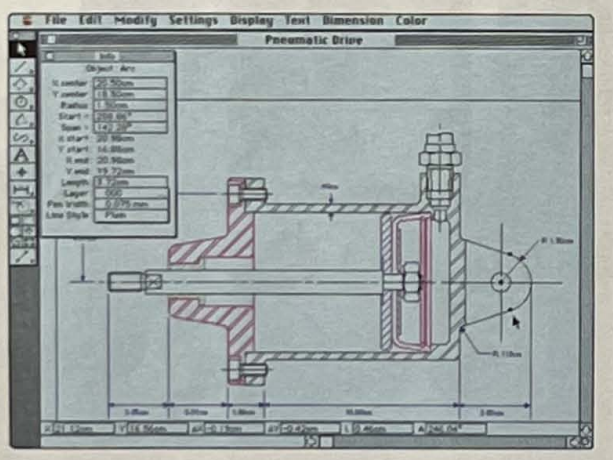

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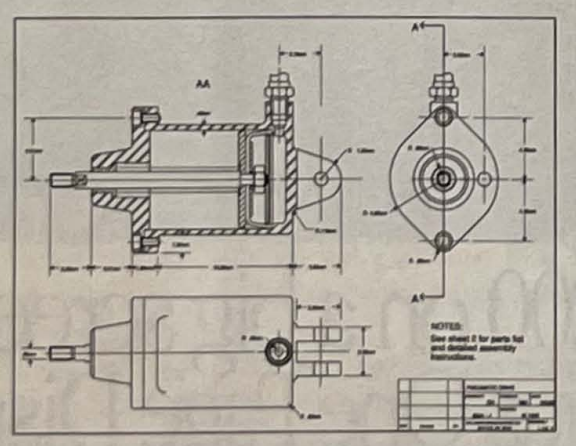

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REVIEWS

PrePrint portends future of color DTP

PrePrint

Aldus Corp.
List Price: $495

+ Makes complex process of color separation relatively simple; good automated tools.

− Some OPI and TIFF file compatibility problems; making color separations is still a complex task.

By Eric Benson

When color desktop publishing became a reality, industry pundits predicted that the high-end color pre-press business was doomed. While Armageddon hasn't been reached, Aldus PrePrint from Aldus Corp. strikes a mighty blow. PrePrint is a relatively user-friendly separation system that automates many complex tasks and produces quality results. It certainly should give traditional high-end color service bureaus a glimpse of the future.

What can PrePrint do?
Aldus PrePrint is a print production utility that prepares film negatives for the printing press. It works with PageMaker Color Extensions or PageMaker 4.0, acting as a link between the layout of a page and the output of that page as four-color film, much like Adobe Separator does with Illustrator.

PrePrint makes it easy to produce four-color separations of PageMaker pages that include color or black-and-white TIFF files and Encapsulated PostScript files. Stand-alone TIFF files also can be separated as loose film to be stripped into a master set of film later.

While PrePrint doesn't contain the retouching tools of full-blown color-separation programs, it does have automated enhancement commands, as well as optional user-defined settings for enhancing and outputting color images. One command that budding color desktop publishers will use frequently is Auto Enhance. This command analyzes a TIFF file and cleans up common problems such as color casting, image softness, weak tonal quality, and incorrect contrast and brightness. Experimenting with this command on different images will help the novice understand how color TIFF files can be improved before printing. It also can save the expert much time.

However, be forewarned that the process of creating quality four-color separations is not one you can pick up after using PrePrint for a couple of weeks. Preparing color images for the printing press is an art, and if you don't treat it as such, you'll be sorely disappointed when the results don't match your expectations. There are no shortcuts to learning color pre-press techniques, and you definitely should work with the professionals at your service bureau or printer every step of the way. The differences among the Macintosh's color screen, a professional color proof and the final printed piece must be seen, understood and incorporated into every job produced with PrePrint.

More to please the eye.
Once you understand the Auto Enhance command and the pre-press color knowledge it incorporates, you can move on to the manual image-enhancement commands. Additional commands for enhancing highlights, midtones and shadows in an image are available. These commands instruct PrePrint to analyze specific areas of color and make adjustments to the whole image accordingly. In some cases, though, you may not see the subtle changes made and thus you may use the commands too often (remember, PrePrint effects are cumulative). To avoid overcompensation, PrePrint allows you to create test strips of an image on-screen to evaluate command results. Using this technique, you can experiment with copies of the file until you get things right. You can keep track of your modifications in an image-information dialog box akin to the Finder's Get Info command.

Other commands increase or decrease saturation, contrast and brightness. Color balance works either manually or automatically. The Auto Balance command automatically corrects color casts in an image but can do more harm than good at times. In some test images, this command took a well-balanced image and added an undesirable color cast. In the manual method, you sample an area of the image that should appear neutral, such as pure white or black, and eliminate any cast in that area from the whole image. This is the most reliable method and is not difficult.

Aldus also provides a file called balance.tif containing color samples for correcting situations that require bumping an overall cyan, magenta or yellow value in as little as 1 percent increments. You can sample colors in an image by using the densitometer tool. When a color sample is taken, PrePrint displays the CMYK (cyan, magenta, yellow, black) and RGB (red, green, blue) components. In our printed test sample, an overall reddish cast was reduced significantly. It is most noticeable in the background.

While PrePrint's manual and automatic color controls can take care of the most obvious problems in an image, for exacting color work you will want to use stand-alone correction programs such as ColorStudio from Letraset of Paramus, N.J.; PhotoMac from Data Translation Inc. of Marlboro, Mass.; and Photoshop from Adobe Systems Inc. of Mountain View, Calif. (see comparative review, MacWEEK, April 10). These programs allow you to set controls to a particular level rather than change them in preset increments. They also let you modify small areas of a picture separately. PrePrint can apply corrections only to an entire image.

Getting the job out the door. PrePrint should not be used without feeding it proper printing specifications, which is information you can get from your printer. The final film must match the press it will run on. PrePrint lets you optimize imagesetter output using Print options that adjust color breaks, screen angles and dot size. PrePrint also supports overprinting of inks. Specific imagesetters are addressed by selecting them from a list in the Print options dialog box and through the use of PostScript Printer Description (PPD) files and a newer set of descriptions stored in Printer Description Extension (PDX) files. The PPD and PDX files optimize film cre-

See PrePrint, Page 58

Reviews in Brief: AMAZING PAINT • CAPTURE • REPORT IDEAS

Amazing Paint

CE Software Inc.'s latest offering, Amazing Paint, goes back to the basics. It's a black-and-white paint program that combines simplicity and some unique features at an attractively low price.

Amazing Paint's streamlined interface uses a single floating palette divided into two panels. The Tools panel contains all the paint and selection tools, and the Action panel offers options that change with the current tool, such as line and fill patterns, brush shapes and ink modes, and rotation and flipping of selections.

An icon bar at the bottom of the window offers six views, from one-third to eight times actual size, and Amazing Paint's unique Mouse Magnifier. Clicking the Mouse Magnifier icon pops up a mini-FatBits rectangle that follows the mouse and acts like a magnifying glass. Pressing the space bar locks the FatBits rectangle into place so that you can edit in the rectangle without moving it.

In addition to the usual paint, shape and selection tools, Amazing Paint adds Shape Selector and Wand selection tools. The Shape Selector selects an area in the shape of a polygon, oval, rounded rectangle, arc or one of 32 predefined shapes. The Wand tool selects an area surrounded by pixels of the opposite value. This provides an easy way to select the background of a painting.

Unlike most black-and-white paint programs, Amazing Paint allows more than one selection at a time. Used with the Wand tool, multiple selection makes it easy to select text for a variety of special effects. By adding and subtracting selections, you can refine a shape until it's exactly what you want.

There's one more nifty selection trick. As with other paint programs, you can use the arrow keys to move a selection one pixel at a time. But Version 1.0.1 of Amazing Paint adds a new wrinkle: You also can use the arrow keys to nudge the selection boundary without moving its contents.

Brush sequencing lets you choose a series of brushes and cycle through them on each brush stroke. You can set the cycling speed or vary it by how fast you move the mouse. Custom shapes for the Brush, Spray Can and Eraser and for the predefined shapes used by the polygonal shape tool and the polygonal selection tool can be saved

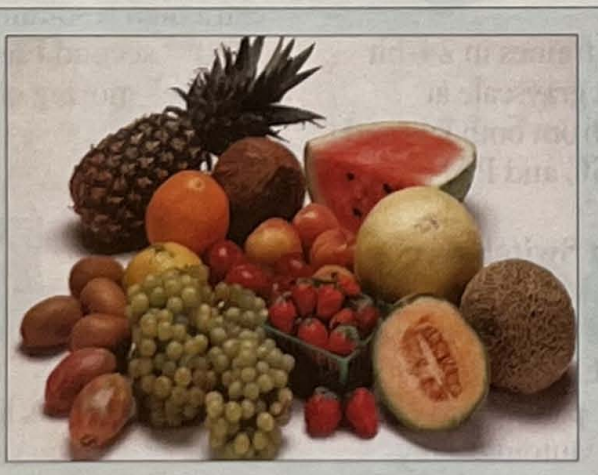
See Reviews in Brief, Page 58

Bearing 4-color fruit

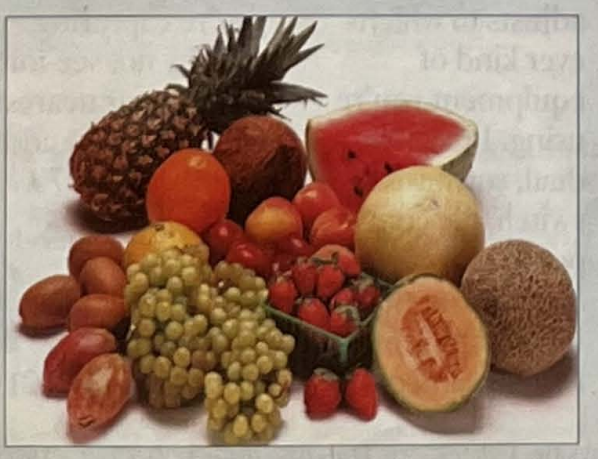
We put PrePrint through its paces with a photograph of fruit. The wide range of colors and textures in this type of image can be a real color-separation nightmare if not corrected properly. The original 4-by-5-inch transparency was scanned at 300 dpi using a Howtek ScanMaster and saved as a TIFF file. Except for reducing its size slightly, the scan was not modified with the scanning software.

The next step was to open the TIFF file with PrePrint and use the Auto Enhance command. We watched as PrePrint analyzed and redrew its version of an improved image. As you can see from the separations (at right), the unenhanced image has a reddish cast, soft focus with fuzzy detail and an overall lack of color saturation. Auto Enhancement did improve the overall appearance of the picture, cleaning up the reddish cast to an acceptable level and

See Fruit, Page 60



The original fruit photo scanned from a transparency.



The image after using PrePrint's Auto Enhance and giving it a slight manual tweak.

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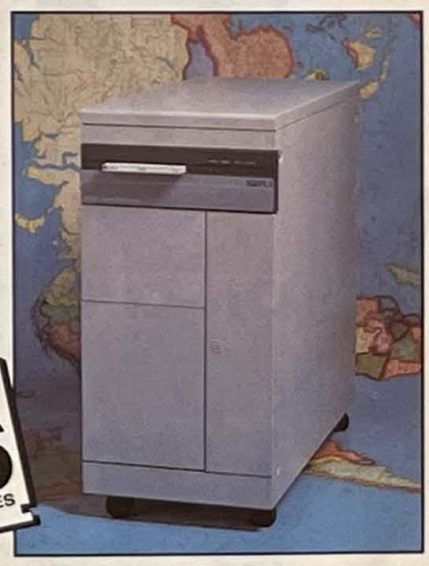

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Reviews in Brief

From Page 56

in Toolbox files, as can custom patterns.

Amazing Paint opens any MacPaint-format document and also will create 72-dpi bit-mapped copies of PICT-format documents. It will save only 72-dpi bit maps. On a Mac 512KE, you are limited to a single document and two levels of Undo. With more memory, you can open multiple documents and have multiple levels of Undo/Redo.

Simplicity, a well-thought-out feature set and a low price ($79.95 until Aug. 31 and $99.95 thereafter) make Amazing Paint a good choice for an entry-level black-and-white paint program.

CE Software Inc. can be reached at P.O. Box 65580, West Des Moines, Iowa 50265; (515) 224-1995. — *By Bruce Fraser*

Capture 3.0

Mainstay's $79.95 Capture is the workhorse of Mac screen-capture utilities. It is hard to imagine a way to improve on Version 3.0's feature set, which has automatic reduction and the capability to include the cursor in a screen shot.

Most important, however, the program works dependably with every program we've been able to throw at it, even games, which are notoriously difficult to capture.

Capture is a Control Panel device (cdev) that can be configured to any key combination. A cross hair appears when this combination is invoked, letting you select a rectangular portion of the screen. Dumps can be placed on the Clipboard or saved to disk. When saved to disk, they can be viewed and printed out with Apple's PICTViewer application, which is included with Capture.

Every screen mode, from black and white to 24-bit color, can be dumped with Capture, and the program works well under MultiFinder. The automatic-reduction feature lets you specify the percentage of the original size at which the dump will be saved. It's useful for large-screen monitors and for optimal laser-printer output.

No desktop publisher or documentation writer should be without this top-notch utility.

Mainstay is located at 5311-B Derry Ave., Agoura Hills, Calif. 91301; (818) 991-6540. — *By Becky Waring*

Report Ideas

A blank screen doesn't have to mean drawing a mental blank. Report Ideas from Intelligence Active Software is designed to help professionals, writers and students organize their thoughts while preparing memos, articles and reports of a technical, scientific or academic nature.

Report Ideas can benefit writers who have good material in their heads but who need to coax it into written form.

During the past five years, Intelligence analyzed thousands of such documents to find out what basic questions readers "ask" when reading, and discovered that they ask questions such as "What is this article about?" The company found that writers use common phrases to "answer" these implied questions and collected them in the Phrase Thesaurus desk accessory.

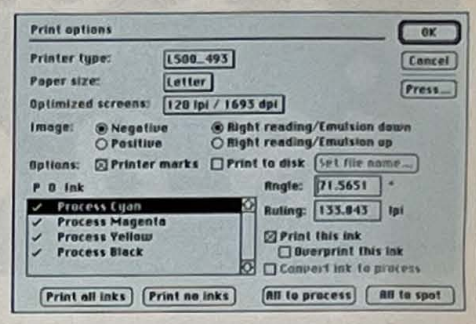
Report Ideas, a collection of phrases aimed at report writers, can act as a thesaurus for transitional word groups, and the desk accessory also may be used to outline a composition.

Report Ideas' support documentation suggests copying relevant key phrases from the program's window into the Clipboard. This is done by pressing Shift-Command-C. However, the company recommends using this append function only if you are working under MultiFinder because some word processors reserve the Shift-Command-C combination for their own purposes. Also, using this command under the Finder will eventually cause a system crash. We experienced crashes under other circumstances as well.

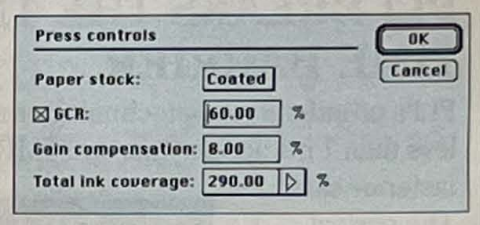
Telephone support is toll-free, and calls were returned within an hour if necessary.

If Intelligence can make the program more reliable, it will be a worthwhile addition to the technical writer's Apple menu. For $79, Report Ideas will help you organize your thoughts and cut through thickets of raw data.

Intelligence Active Software is at 6070 Business & Technology Center, Macomb, Ill. 61455; (309) 833-5959; (800) 344-0571. — *By Kandy Arnold*



From within the Print options dialog box, technical specifications such as screen angle, crop marks and so on are set.



Aldus' PrePrint offers a selection of predefined settings for the type of press being used for the final product.

PrePrint

From Page 56

ation and adjust screen angles and dot sizes automatically to prevent the appearance of moiré patterns. PrePrint will try to achieve the best results using the default settings. You also can enter your own values if the defaults need adjusting. All the standard options for producing negatives are present, including emulsion up or down, registration marks and paper size (each PPD allows only the sizes supported by the printing device chosen).

Taking the control factor one step further, PrePrint adds options that fine-tune the film to a particular paper stock. Coated, uncoated, newsprint and supercalendered papers can be specified. The paper specified affects automatic settings for dot gain compensation, gray-component replacement or undercolor removal, total ink coverage and density. These settings also can be manually defined.

The technical side of this printing lingo would take many pages of ink to describe, but that's exactly why PrePrint provides automated settings. You should talk to your printer before changing any of the press specifications. You also may want to run a few press proofs to get an idea of limitations in the process. Always look at color proofs like match prints or color keys before the presses start rolling. Composites can be printed directly from PrePrint to color printers.

Minding your TIFFs and OPIs. PrePrint can create color separations directly from TIFF files or PageMaker OPI files (publication files printed to disk). Creating a PostScript OPI file requires careful attention to the myriad output specifications in PageMaker and requires choosing the device on which you will be printing the separations. If any of these specifications change after you have output the file, you can't change them in PrePrint.

OPI files are a new breed of PostScript files describing entire pages that adhere to Aldus' Open Prepress Interface, a proposed standard that provides a link between the desktop and high-end color systems. OPI files may contain text, artwork and links to TIFF images and are simply PostScript files with special information about placement, sizing, cropping and distortion of images. High-end color systems can use this information, saving both time and money in the process. Almost all of the high-end pre-press vendors have announced PostScript links to desktop computers

See PrePrint, Page 60

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Dial 1-800-FIND CIS (346-3247). When connected, press RETURN.

At Host Name prompt, type PHONES.

Follow instructions to locate access numbers in your area. Hang up.

MAC ON-LINE

Signing up for an account

Dial up using your local access number. When connected press RETURN.

You'll see the following prompts on-screen. Your responses are printed in bold.

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User ID: **177000,5200**

Password: **Z*MAC**

Agreement Number: **Z12D0890**

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PrePrint

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through the use of OPI standards.

When an OPI file is opened with PrePrint, the publication window appears. It reports the existence and page number of TIFF files linked to the pages. Masking (blocking out) of TIFF images also can be done at this point, in case you are mixing desktop color separation of text with high-end separation of images.

Compatibility is an issue. PrePrint supposedly separates all OPI and TIFF files, but we could not print PostScript files from Version 2.12 of QuarkXPress, which supports OPI. According to Aldus, the OPI specifications are ambiguous in some respects, but the company hopes to resolve the incompatibilities with major vendors soon. Another problem is that several major desktop publishing applications cannot import TIFF files modified by PrePrint. Aldus says that not all vendors have modified their applications to be compatible with the latest TIFF specifications but that these problems too should also be solved soon.

Calibrate or perish. Aldus describes the process of calibrating imagesetters as an "advanced, but critical, technique" when using PrePrint. This cannot be overemphasized: If you don't calibrate, your results will be inconsistent and maybe unsatisfactory. The PrePrint package includes a test OPI file to help calibrate your equipment. Once downloaded to an imagesetter, the processed results are examined with a transmission densitometer. If the results are off, you then edit the imagesetter's PDX file to correct the densities.

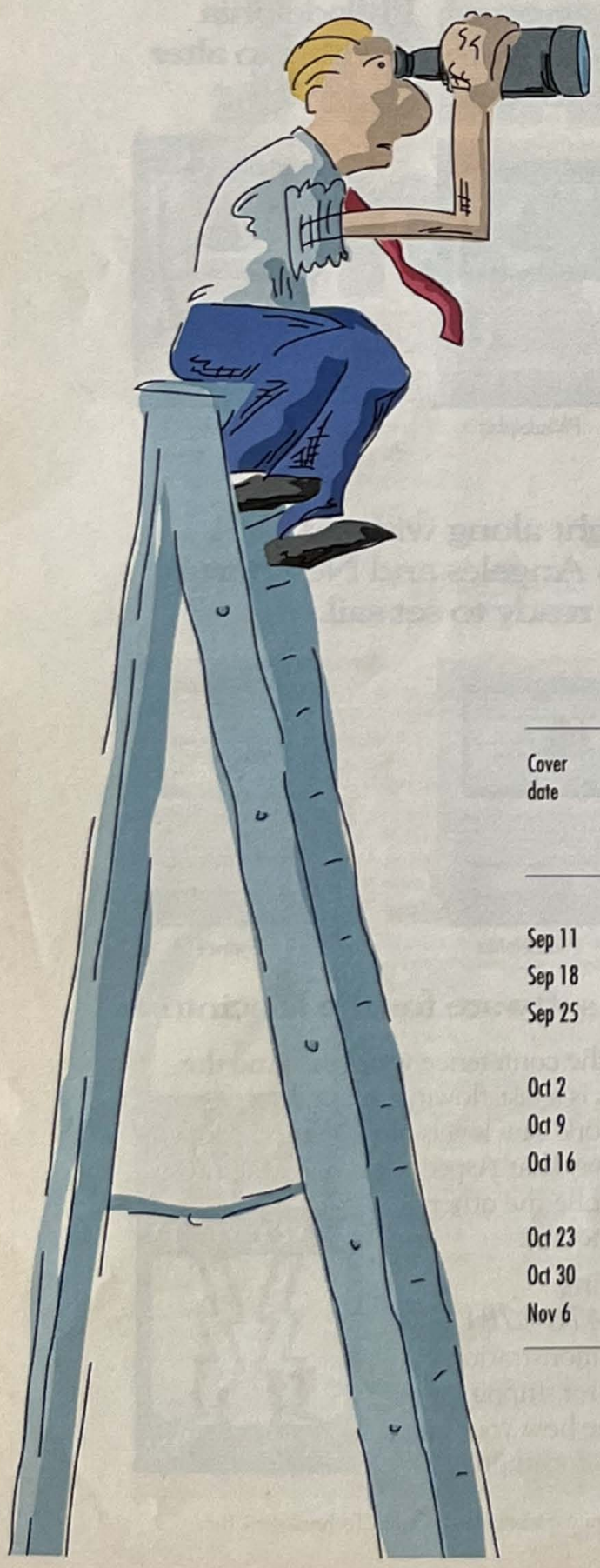
Monitors also should be calibrated if you are color correcting TIFF files by eye. Third-party tools such as San Jose, Calif.-based Radius Inc.'s Color Calibrator are available.

Conclusions. PrePrint is well worth the investment if you plan to produce your own color separations, particularly if you already have PageMaker. It is also a good tool for beginners new to color pre-press technology, although much further reading and experimentation is necessary beyond what is included in the manual. Its automated color enhancement and balancing features, together with automated press options, take much of the pain out of preparing separations for the novice and even provide the expert user with a good jumping-off point.

So are the high-end color pre-press systems in danger of becoming extinct? Not until desktop pre-press systems are attached to ultrahigh-resolution scanners and output devices become flawless when imaging dot structures and patterns. Quality issues are being addressed by both input and output hardware vendors. Linotype is now shipping an imagesetter designed for the color market, the L-330, and scanners are becoming more capable. As PrePrint matures, it should take advantage of these improvements.

Recently, Adobe announced PostScript Level 2, a new imaging model for color publishing. This advance in PostScript will help equalize the problems in converting screen display colors (RGB) to the printed page (CMYK). As new output devices appear that incorporate PostScript Level 2, PrePrint will provide even better control over the consistency and quality that must be part of every four-color job.

Aldus Corp. is located at 411 First Ave. S., Seattle, Wash. 98104; (206) 622-5500. □



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Oct 2	Display systems, **GA**	Sep 21	Sep 18
Oct 9	Databases	Sep 28	Sep 25
Oct 16	Business productivity, **GA**	Oct 5	Oct 2
Oct 23	**Save** (Storage Supp.)	Oct 12	Oct 9
Oct 30	**GA**	Oct 19	Oct 16
Nov 6	In-house development	Oct 26	Oct 23

Fruit

From Page 56

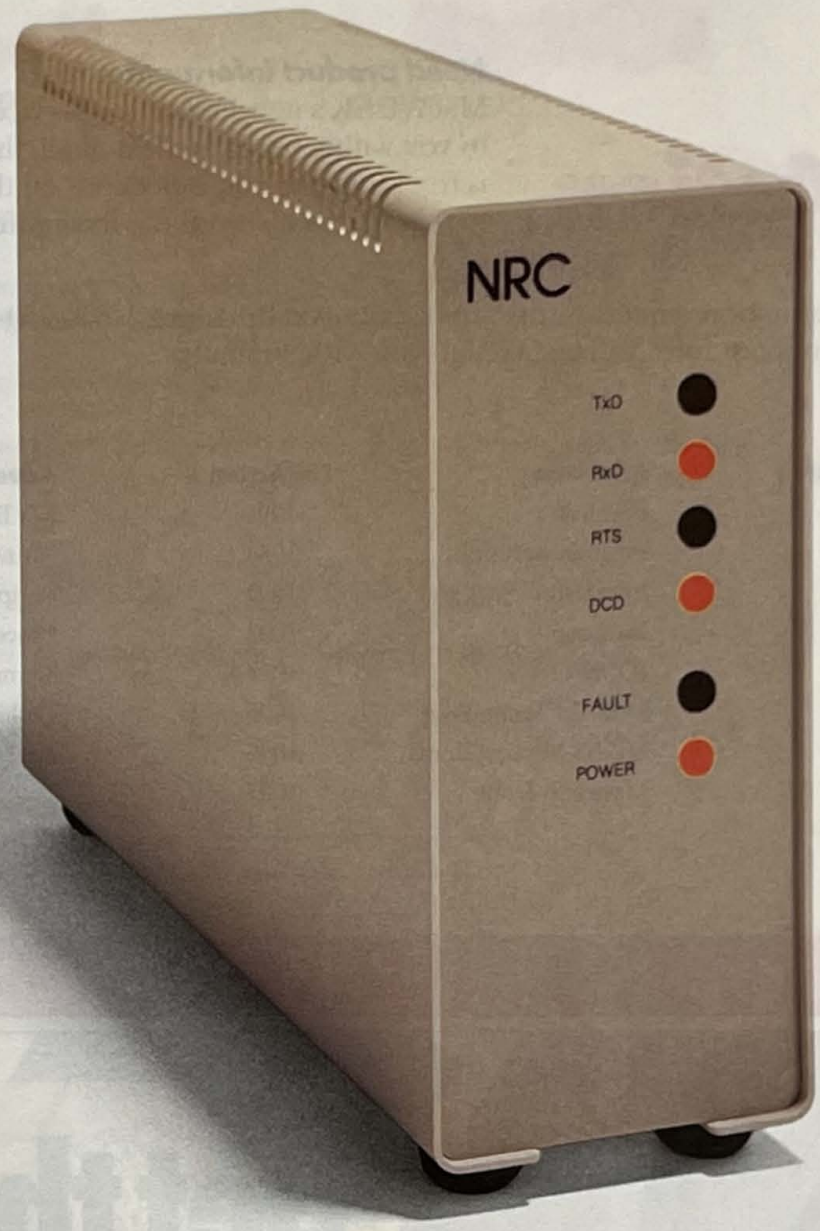
giving the fruit a more natural look. Some improvement in sharpness occurred but was not very noticeable on-screen. We wanted the fruit to look "alive" on the page, so we sharpened the image and increased the saturation manually by one increment. PrePrint's manual enhancement commands have a cumulative effect on an image, related to how often they are used. The result was clearer detail in the fine textures, most noticeable in the cantaloupe skin, pineapple and coconut. The grapes show a marked improvement in sharpness as well. The increase in saturation created a more dimensional look by beefing up the color tonality across the spectrum, although the orange seemed flattened out because too much color was added. This problem could have been fixed more easily with a retouching program, so that the corrections to the orange could be separated from the rest of the fruit.

PrePrint did an admirable job of producing the four-color film; it delivered both speed and quality. A 3.25-by-2.25-inch loose separation took only seven minutes to complete, averaging less than two minutes per piece of film. An 8.5-by-11-inch page with the same image and about a half page of text took twice as long.

Our tests were output from an 8-Mbyte Mac IIx to a Linotronic 500 imagesetter with a RIP 4. The minimum configuration recommended for PrePrint is a 2-Mbyte SE with a hard disk. However, image enhancement is best done on a 24-bit color display.

— By Eric Benson

MultiGate Bridge from NRC



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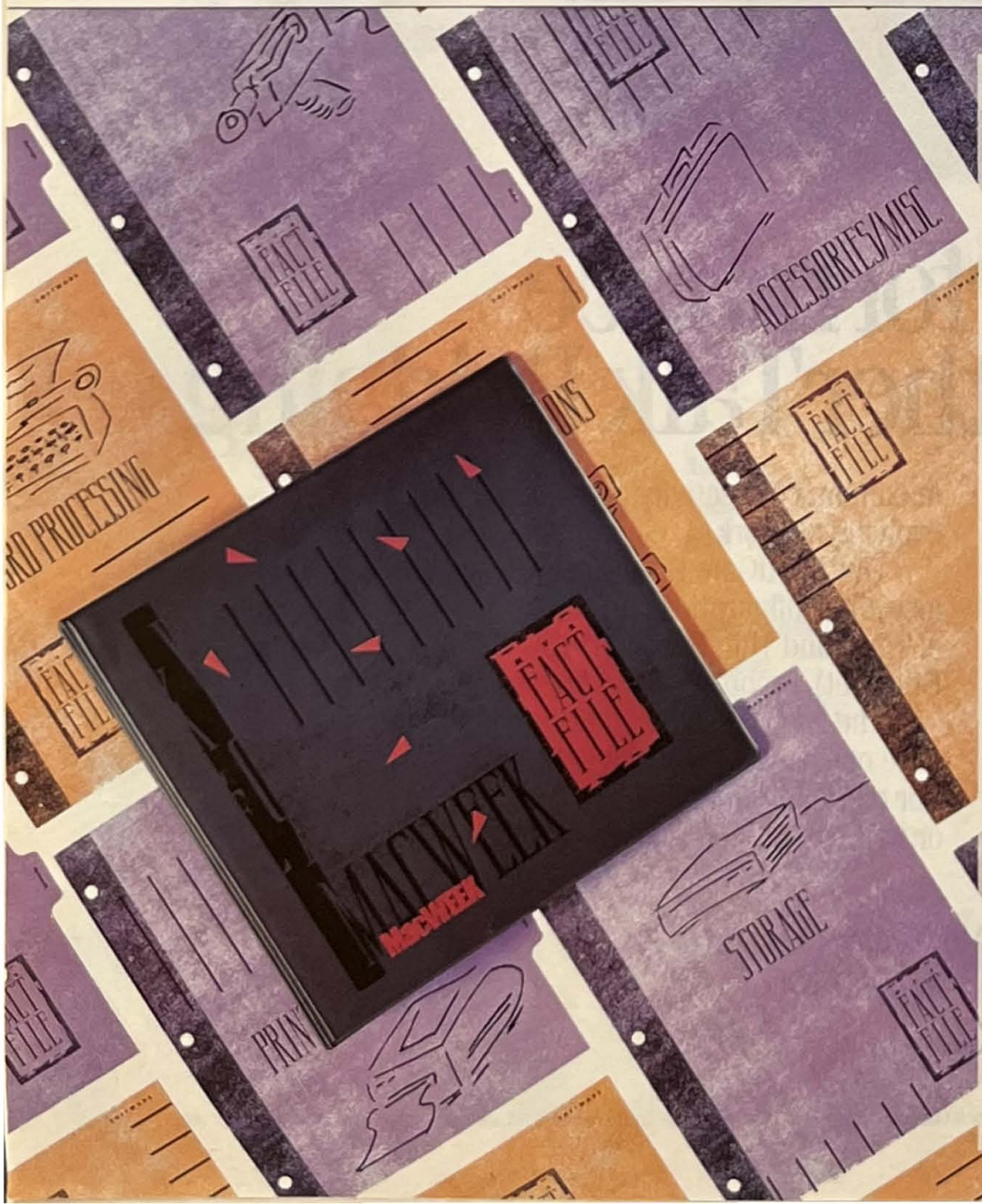

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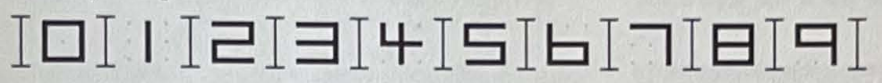

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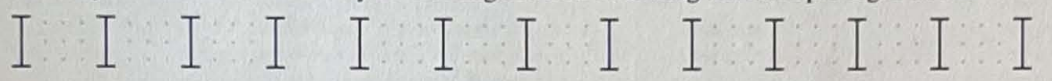

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☐ 1005	☐ 1015	☐ 1025	☐ 1035	☐ 1045	☐ 1055	☐ 1065	☐ 1075	☐ 1085	☐ 1095	☐ 1105	☐ 1115	☐ 1125
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REVIEWS

Norton Utils: Strong medicine for bad disks

Norton Utilities

Peter Norton Computing Inc.
List price: $129

+ Intuitive interface; powerful file-recovery tools; Fast Find locates file very quickly; on-line help is excellent.

− Doesn't work with all kinds of disk damage; UnErase does not tell how much room is available on the volume to which you are saving data; Speed Disk will not defragment the start-up disk.

By Steve Costa

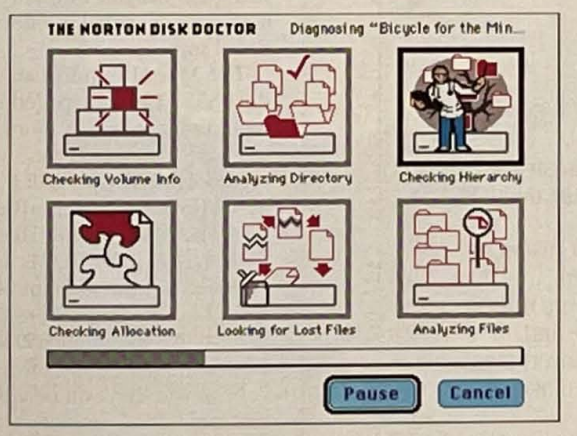
Sooner or later, everyone suffers from a crashed hard disk drive or an accidentally deleted file. Until recently, the Macintosh market had just a few utilities for tackling these problems. Now users have a new choice: Peter Norton Computing Inc. has introduced Norton Utilities for the Macintosh, a set of eleven programs that has virtually everything most Mac users could want from a set of file-recovery tools. Norton Computing has a well-deserved good reputation for disk utilities in the DOS world and a lot to live up to with its first Mac product.

File recovery. Though most people are going to get Norton Utilities for its capability to recover and repair damaged hard drives, the package also includes other utilities (see story, Page 66).

Norton Utilities' file-recovery tools come in four pieces: Disk Doctor, Format Recover, UnErase and FileSaver. We tested these extensively with a range of damaged media, and for the most part they did well. The FileSaver Control Panel device (cdev) is the essential piece that enables the other tools to do their work. It creates special files that Format Recover uses to restore hard disk drives. UnErase, which exhumes accidentally deleted files, also depends on FileSaver for its fast method of recovery, Quick UnErase, which can remember and undelete up to 500 files.

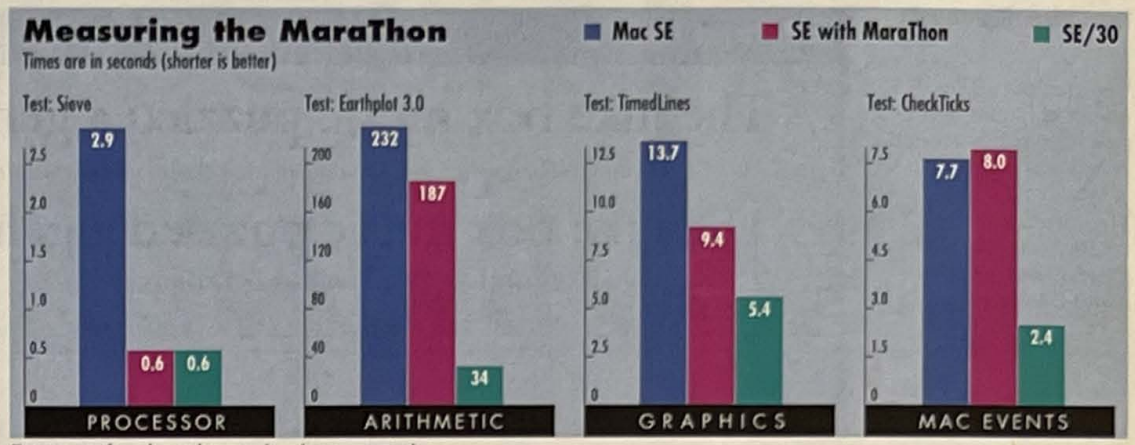
The file required by Format Recover can fill up to half a percent of the space on your drive. It is worth the space, since Format Recover had the highest success rate and was quite fast. Norton's Disk Doctor wasn't as successful and was able to repair only seven out of 14 drives tested. Disk Doctor had much better luck repairing floppy disks and was successful in 42 out of 50 cases. Watching Disk Doctor make its rounds can be a learning experience, as informative dialog boxes tell you what kinds of damage the program finds and what problems might ensue if they aren't dealt with.

See Norton, Page 66



Norton Utilities' Disk Doctor checks hard drives and floppy disks for various kinds of problems. When it finds damage, it warns you what will happen if you don't repair it and asks if you would like to proceed.

Speed Disk, which is included in the Norton package, is one of the better disk defragmenters we've used. In Expert mode, it lets you see where files are physically located on the disk.



Tests were performed several times and results were averaged.

MaraThon upgrade gives SEs a boost

MaraThon 030 SE

Dove Corp.
List price: $699

+ Economical 68030 upgrade for SEs; provides moderate speed increase; includes Symantec's SUM II and SAM 2.0 utilities.

− Does not provide full SE/30 functionality; some risk of future incompatibilities with system software.

By Steve Rosenthal

If you think of Dove Corp.'s MaraThon 030 SE upgrade as a low-cost route to improved capability, you may be pleased with this accelerator. But if you're looking to speed up your Mac SE to the level of an SE/30, you'll be better off with other options.

What it is. The MaraThon is a small circuit board with a 16-MHz 68030 processor that clips over the existing 68000 in the SE. Once in place, the '030 takes over processing on the Mac. The upgrade leaves the supporting circuitry, disk drive and ROMs in place so the converted machine is different from a stock Mac SE/30 (see story at right).

The MaraThon doesn't use the Processor Direct Slot (PDS) on the SE, so it's still possible to add a graphics card for a large screen or a network adapter. As with any add-on, the MaraThon 030 increases slightly the power used by the SE. That's only a problem if you're already close to the limit, but that could be an issue if the MaraThon is used in conjunction with another board. We did not test compatibility between the MaraThon and other boards.

How it got there. Installing the MaraThon should not be an overwhelming task for anyone used to popping open the case of a compact Mac and pulling out the circuit board. While the illustrations provided were sketchy, the step-by-step instructions were clear. The process took us less than half an hour.

However, we noticed there was no mention in the manual of the very real dangers of stored-up high voltage in the Mac or of breaking the back of the CRT envelope (the "jug"). If you don't know what these are or the precautions to take, you'd be better off having a trained technician do the work for you. Dove also warns that while the board can be removed, the clip used to hold it to the processor may not make good contact after repeated installations.

On the software side, the package includes an installer program that adds a Control Panel device (cdev) to your System folder. The bundled copies of Symantec Corp.'s SUM II and SAM 2.0 are installed separately.

How long does it take? In testing the MaraThon, we found a measurable improvement in performance on several of our standard benchmarks, particularly those involving short loops when the on-board instruction and data caches of the 68030 came into play. But while the differences were mathematically significant, they were not enough to affect real-world processing of standard programs dramatically, and most failed to match an SE/30 on the same tasks. The relatively minor improvement in arithmetic performance was expected because the MaraThon 030 has no math coprocessor. In the test that counts how long it takes the Mac to respond to 10,000 operating system events, the "accelerated" SE actually took slightly longer than a normal one.

We were unable to verify whether the MaraThon would run future system software. However, based on a prerelease version distributed to developers, Dove claims that an SE with a MaraThon accelerator will be able to run all of System 7.0, with the possible exception of virtual memory. At Macworld Expo, Dove demonstrated a custom version of Connectix Corp.'s Virtual utility, which will offer 12 Mbytes of virtual memory for MaraThon users. Connectix said it will start bundling the utility this month. A/UX will not run on the MaraThon. Dove said Apple would have to divorce A/UX from the specific features of the Mac hardware before it could ever work.

See MaraThon, next page

What's an SE/30?

A Mac SE upgraded with a third-party '030 accelerator is still different from an official Apple SE/30 in several ways. Some differences are minor, but some may be important:

Video. When the Mac SE updates the screen, other activity stops, but the SE/30 can access RAM to update the screen while the CPU continues with other tasks. If you're using the built-in 9-inch screen, you won't care about this difference. But if you are using a much larger screen with an accelerated SE, screen updates may be slightly slower than they would be on an SE/30 with the same monitor. More significantly, an SE's external monitor options are limited to black-and-white or a mere eight colors.

Sound. The SE/30 uses hardware to handle much of the sound processing performed by software on an SE running System 6. Heavy use of sound on an SE, even with an accelerator board installed, can significantly slow down other activities, while on an SE/30 it will have less of an effect. Also, the headphone jack on the SE is not stereo like the SE/30's.

SCSI. Although the standard wisdom is that hard disk drives used with the Mac SE should be initialized with a 2:1 interleave, many work with a 1:1 interleave on any Mac. An accelerator board doesn't change this. If you have a drive with a 2:1 interleave connected to an accelerated SE, you could reinitialize the drive to 1:1 and get a minor performance benefit. However, if your work requires continuous, heavy disk access, you may experience worse performance with an accelerated SE and a 1:1 drive than with an SE/30.

See Differences, next page

For the Record:

The graphic on the effects of hinting accompanying our July 31 font review was in error.

The correct results for Bitstream Galliard are shown at right. We regret the error.

Effects of hinting

The juke box music puzzled a gentle visitor.

Bitstream Galliard 10 pt. Roman output at 300 dpi, without hinting, enlarged 200%

The juke box music puzzled a gentle visitor.

Adobe Galliard 10 pt. Roman output at 300 dpi, with hinting, enlarged 200%

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MaraThon

From previous page

Whom do you call? Dove provides a one-year warranty on the MaraThon, but only if it is installed by an Apple-certified technician or equivalent. Dove provides a toll-free number for help, and we were able to get through with no trouble. In addition, Dove supports its products through several on-line services.

Conclusions. If a trade-in or upgrade to an SE/30 won't fit in your budget, the MaraThon is a lower-cost alternative. It's a price and performance trade-off, since there are other, more expensive accelerators that run faster. Dove is the first seller of a Mac SE accelerator to demonstrate virtual memory working on that machine, and the promise of a bundle with Connectix's utility, along with SUM II and SAM, make the MaraThon a good value even without a marked speed improvement.

Dove Computer Corp. is located at 1200 N. 23rd St., Wilmington, N.C. 28405; (919) 763-7918; (800) 622-7627. □

Differences

From previous page

Floppy. The Mac SE/30 has Apple's SuperDrive; an accelerated SE retains the standard 800-Kbyte floppy drive. Third-party products that perform the same functions as the SuperDrive are available.

Memory. Memory management is more limited on an SE than on more-recent Macs, and that could be important for upgrades and future compatibility. As far as memory is concerned, there are three classes of Macs:

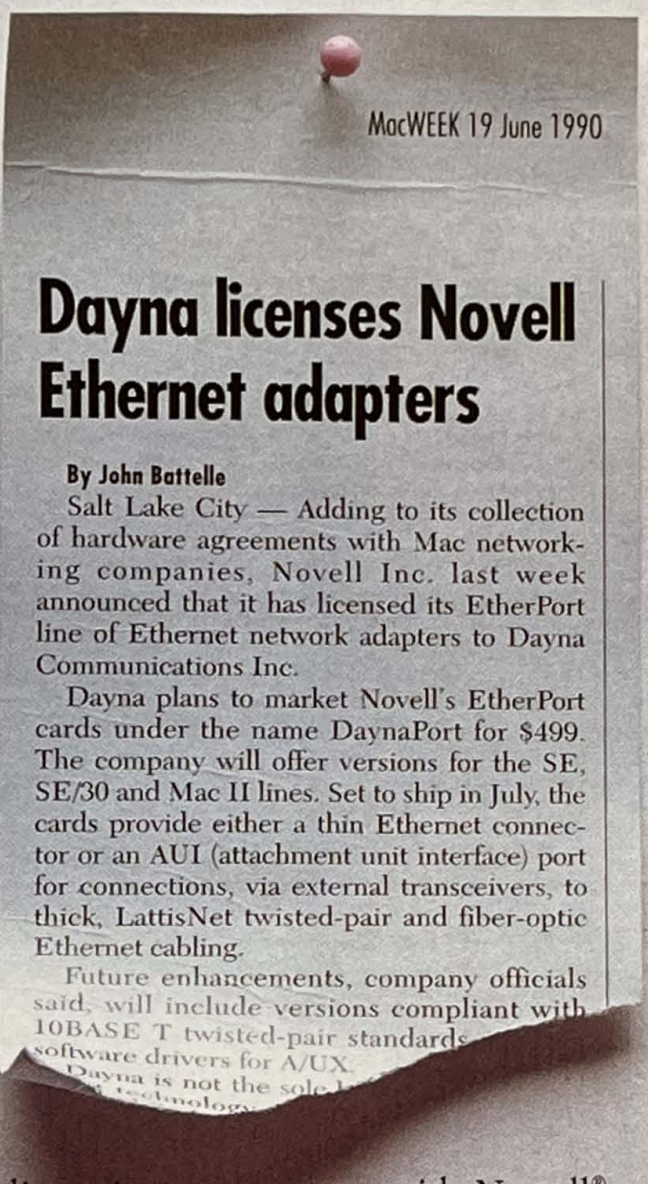
- The Mac Plus and SE physically can hold up to four SIMMs (single in-line memory modules) each, and the memory-management routines in their ROMs understand memory in megabyte-size chunks.
- The Mac SE/30, II, IIx and IIcx can hold eight SIMMs and address up to 14 Mbytes of memory. System 6 by itself can use only 8 Mbytes for real RAM, but Connectix's utilities (see MacWEEK, July 10) can add the leftover 6 Mbytes as real or virtual memory. System 7 on these machines will use 8 Mbytes of real RAM and up to 6 Mbytes of virtual memory without additional software.

The Mac II requires an additional chip, the 68551 PMMU (paged memory management unit), to access more than 8 Mbytes in any case. On Mac II-family machines, memory available in excess of 8 Mbytes decreases by 1 Mbyte for each NuBus card installed.

- The Mac IIci and IIfx also hold eight SIMMs, but their ROMs are "32-bit clean," so the maximum amount of memory they can address is huge. These newest Macs behave like the other 68030-based machines from a memory point of view. Under System 7, however, they will be able to use a mix of real and virtual memory totaling more than 4 Gbytes.

When's an SE not an SE? An accelerated Mac SE is still an SE at heart; its memory-management routines are the same even though the processor is faster. An accelerated SE will be limited to 4 Mbytes of RAM just like an SE, but depending on how System 7 checks the capabilities of the Mac it's running on, the System may overcome that limit with virtual memory. However, Apple makes no promises about third-party '030 upgrades being compatible with System 7's virtual memory, so any vendor's claims of full System 7 compatibility should be taken with a grain of salt. — *By Stephen Howard*

Best Selling Ethernet Cards.



MacWEEK 19 June 1990

Dayna licenses Novell Ethernet adapters

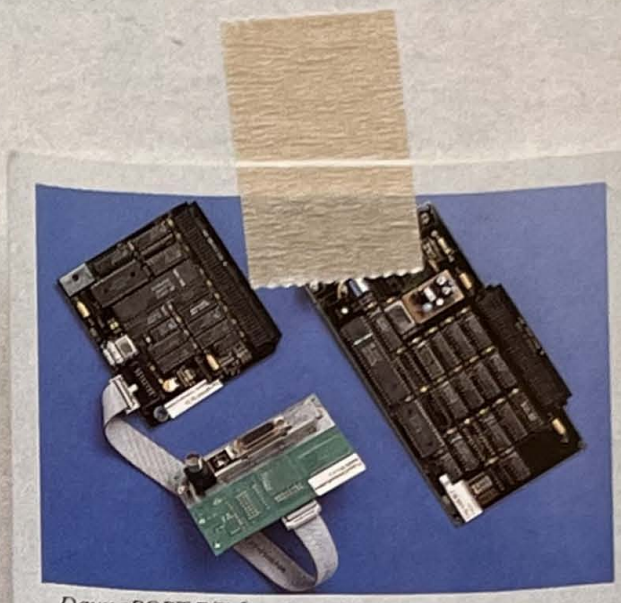
By John Battelle

Salt Lake City — Adding to its collection of hardware agreements with Mac networking companies, Novell Inc. last week announced that it has licensed its EtherPort line of Ethernet network adapters to Dayna Communications Inc.

Dayna plans to market Novell's EtherPort cards under the name DaynaPort for $499. The company will offer versions for the SE, SE/30 and Mac II lines. Set to ship in July, the cards provide either a thin Ethernet connector or an AUI (attachment unit interface) port for connections, via external transceivers, to thick, LattisNet twisted-pair and fiber-optic Ethernet cabling.

Future enhancements, company officials said, will include versions compliant with 10BASE T twisted-pair standards software drivers for A/UX.

Dayna is not the sole



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The DaynaPORT™ Ethernet cards for Macintosh.®

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How Apple Turned the CD ROM Tide with Meridian.

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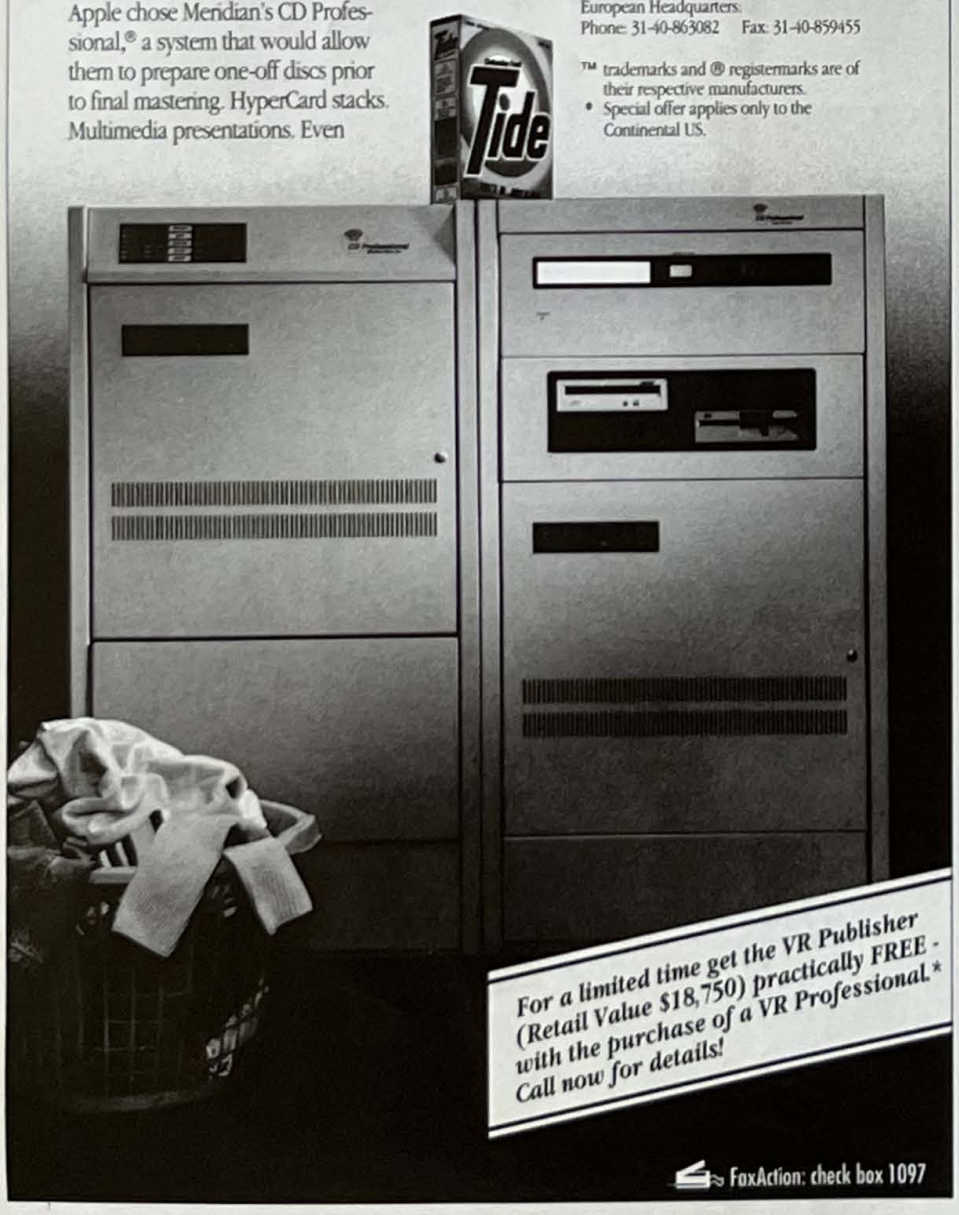
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Norton

From Page 63

As a rule, disks that can't be repaired with Disk Doctor and that weren't prepared with FileSaver should be handled by UnErase. At times, UnErase will give disconcertingly wrong information, such as saying it can retrieve more data than is on the disk being recovered. Fortunately, you can pick and choose the files that you want to restore, and UnErase does a good job.

If you bought Norton Utilities, went through the installation process and then crashed, you would go a different — and likely much more successful — route to recovering your data than if you bought the package after the crash. As a set of tools for file recovery, Norton Utilities does what the company claims it will do. The file-recovery tools are quite complete and the excellent interfaces make them easy to use.

Problems. Norton Utilities doesn't properly handle volumes holding an extraordinary number of files (somewhere around 14,000). With this many files, Disk Doctor gracefully explains that there are more files than it expected and gives up. Format Recover insists that it can't handle this many files but sometimes mysteriously recovered the drive anyway. UnErase tried but ran out of RAM on an 8-Mbyte Mac IIcx. Speed Disk, the disk defragmenter, was the only Norton application able to deal with this many files. It optimized the volume without problems but took six hours to do so.

Norton also had problems with very damaged directories, even when FileSaver was installed. Disk Doctor didn't handle severe Volume Information Block and Catalog B Tree damage well, but nothing else repairs that combination either. We tested all the utilities on a special floppy disk that insisted it was a 39-Mbyte hard drive with 1,400 files. Disk Doctor claimed to repair the disk and gave it a clean bill of health — as a hard disk — and UnErase quickly recovered imaginary files. Only Speed Disk saw the floppy as a fraud and refused to work on it.

We found a few odd design decisions in Norton Utilities, but they were more annoying than troublesome. UnErase, for example, does not reveal how much room is available on the volume to which you are recovering data. Speed Disk will not defragment the start-up disk. And when running Directory Assistance, folders can appear only at the bottom or top of the scrolling list in an Open dialog; the normal alphabetical order is not an option.

Tech support and documentation. Norton's technical-support staff was patient and knowledgeable, though it was clear that not everyone answering calls knew the Mac in depth. Still, they were able to solve all the problems we threw at them. Support is a toll call, but Norton accepts faxes and returns calls fast.

Norton Utilities comes with three manuals: Two are on paper, and the third is built into the software. The first of these, the User's Guide and Reference Manual, gives a broad overview of the eleven utilities. The manual's organization makes it easy to find what you need, and the writing is clear. It has a excellent glossary, but the index is small and incomplete.

The second manual, The Norton Disk Companion, is a gem. For those interested in the deeper secrets of the Mac, this manual is the one to read. It explains how the System performs various basic tasks, such as creating, saving and deleting files, and it covers many operations that take place invisibly. It makes these complex subjects understandable to anyone.

The third manual is found in the on-line help, which combines the best of the printed manuals in an intuitive hypertextual interface.

Conclusions. Norton Utilities represents a major step forward in empowering normal users to easily and effectively deal with damaged hard drives and bad floppies. Compared with similar utilities, Norton is faster and generally more successful at retrieving data from corrupted disks. But as good as Norton Utilities is for data recovery, we wouldn't recommend throwing away Symantec Corp.'s Symantec Utilities for Macintosh (SUM) just yet. SUM II 2.0 was able to recover some drives that Norton could not, but Norton recovered data that SUM II 2.0 could not at least as often. And with drives that both could recover, SUM II took many times longer. Though the average user is not likely to suffer from such severe problems, without the widest range of tools or a current backup, the risk of permanent data loss is higher than it needs to be.

Norton Utilities for the Macintosh has additional components, including Fast Find, Directory Assistance, Disk Editor and Speed Disk, that raise its value above that of competing products. These utilities are not only a bonus, but in many cases, they are better than similar programs on the market. Overall, the Norton package offers simple and non-threatening ways to perform a number of important tasks that are otherwise complex and cumbersome. Norton Utilities is successful in meeting the everyday needs of Mac users and in confronting less-common crises as they arise.

Peter Norton Computing Inc. is located at 100 Wilshire Blvd., Suite 900, Santa Monica, Calif. 90401; (213) 319-2000. □

Other utilities in package

In addition to the essential file-recovery tools, the Norton package includes a group of utilities for other common functions.

Disk Editor is a file editor that accesses data at the bit level. With it, experienced users can easily edit files or examine directories.

Layout Plus can change the way the Finder displays information on-screen, such as the default font or the space between icons.

For day-to-day use, people probably will use Fast Find most. In seconds, this desk accessory can find any file on a drive, regardless of the drive's size. It also can launch applications and open or view documents. Fast Find works well over networks and multiple drives, and the friendly interface makes it easy to use.

KeyFinder displays all characters of any font installed, along with the key combinations required to type each. KeyFinder shows a full page of a font on-screen and can print a character list.

Directory Assistance is a Startup document (INIT) that adds several pop-up menus to the standard Open, Save, and Save As dialog boxes. These menus allow you to create new folders; delete, duplicate and find files; and view the file and folder list in several different ways, including by size or by date.

Finally, DiskLight informs you of disk activity by displaying a small icon in a corner of the menu bar. This Control Panel device (cdev) uses different icons for floppy and hard disks, and for reading and writing data. DiskLight is especially useful for those who have hard disk drives without access-indicator lights or that are inaudible over surrounding noise. — *By Steve Costa*

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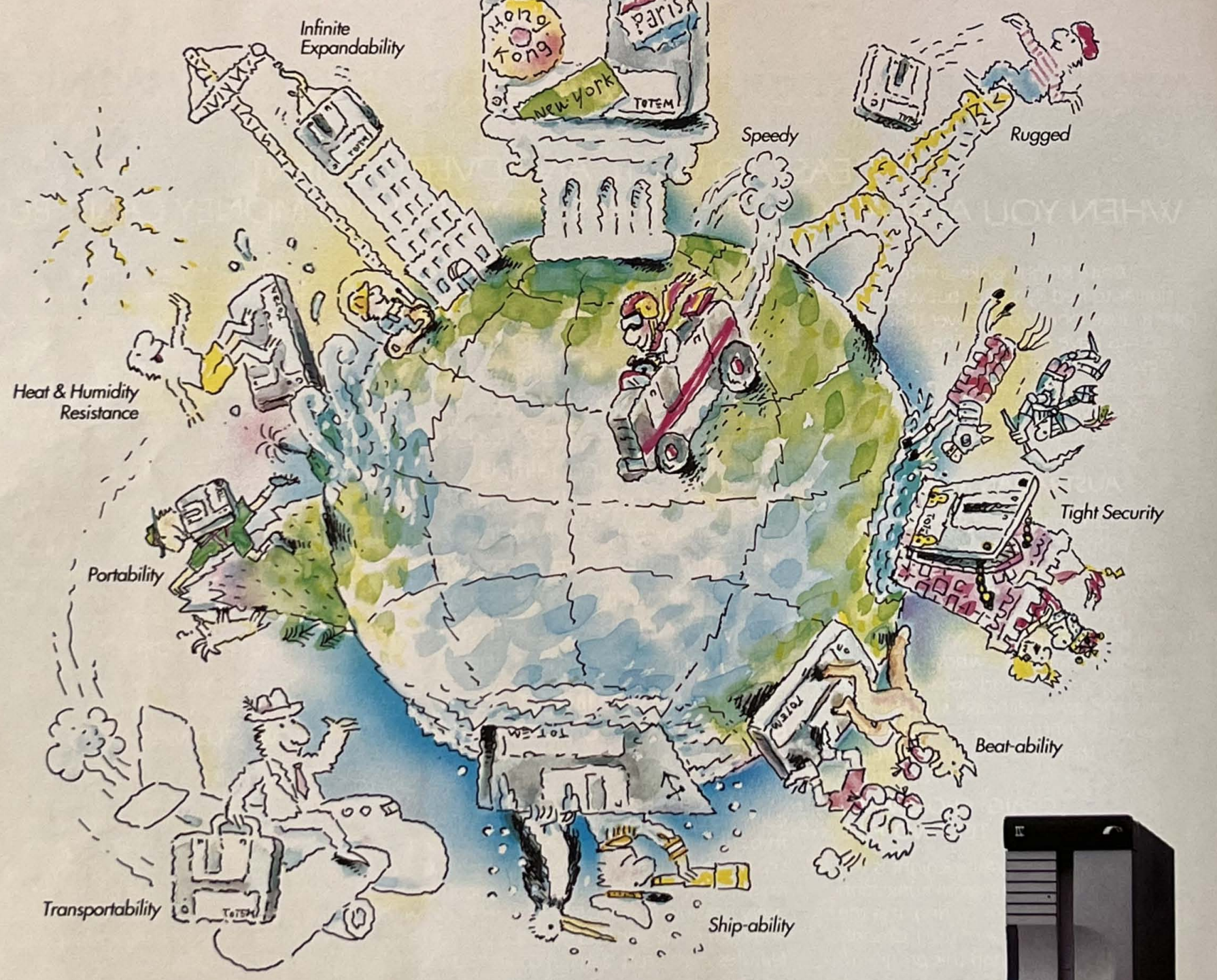

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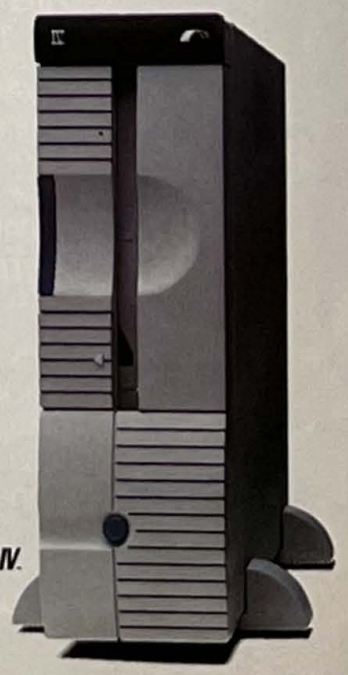

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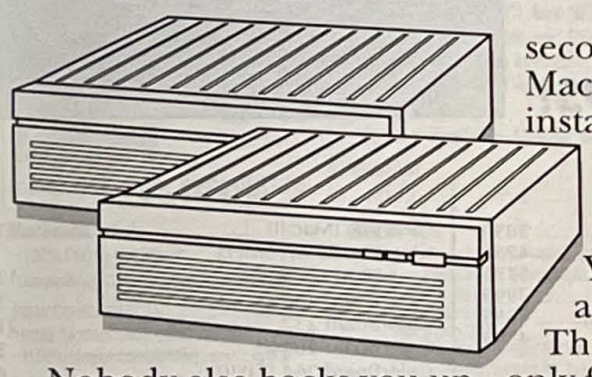

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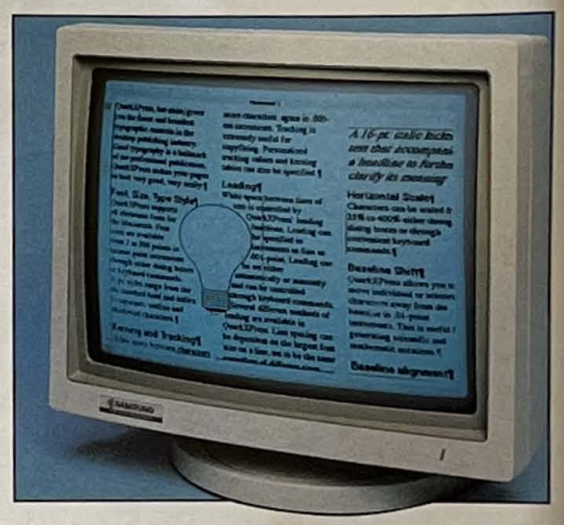

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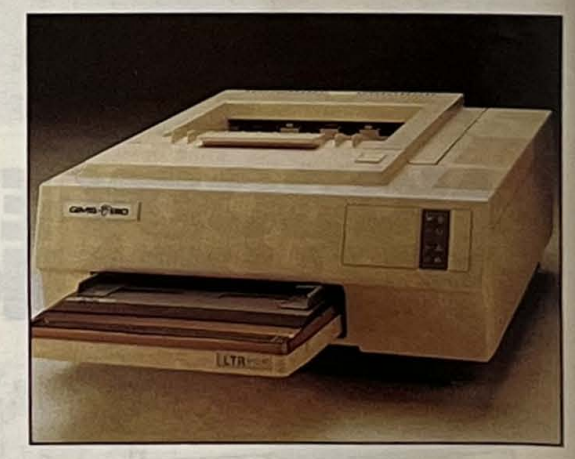

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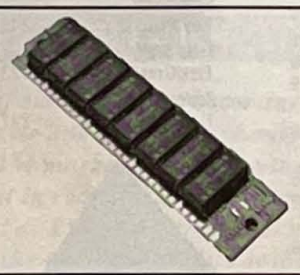

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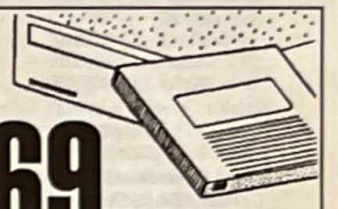

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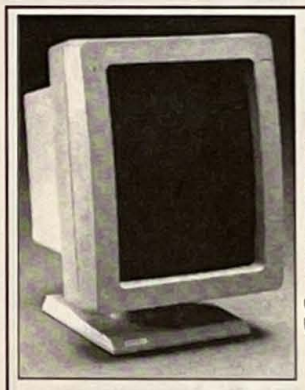

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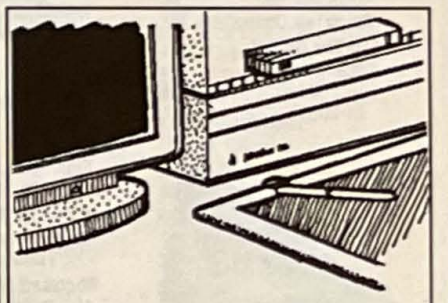

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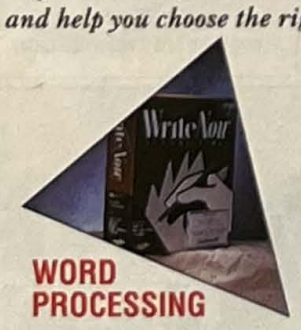

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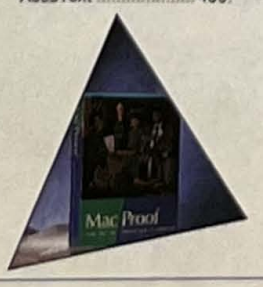

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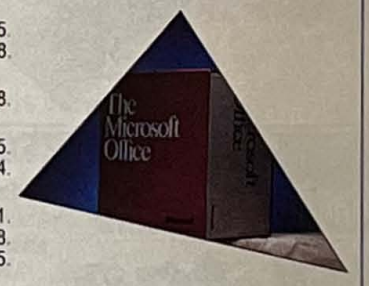

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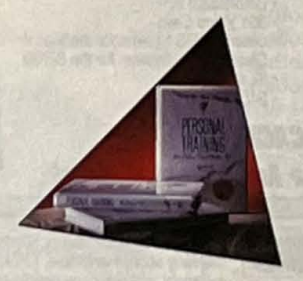

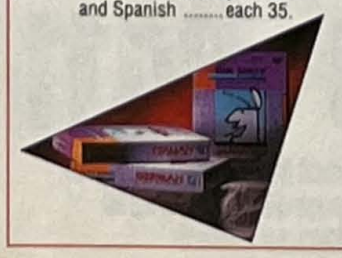

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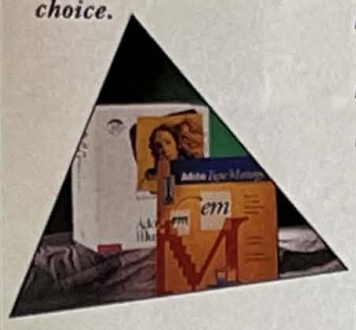

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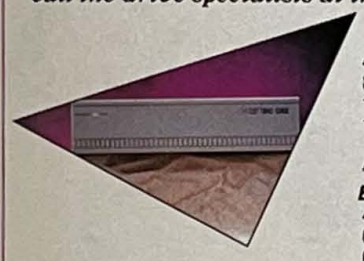

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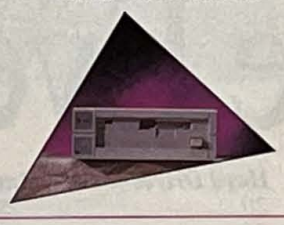

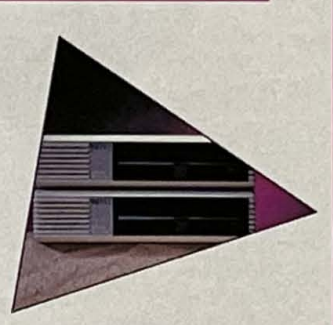

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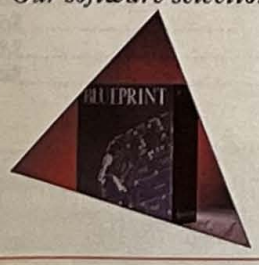

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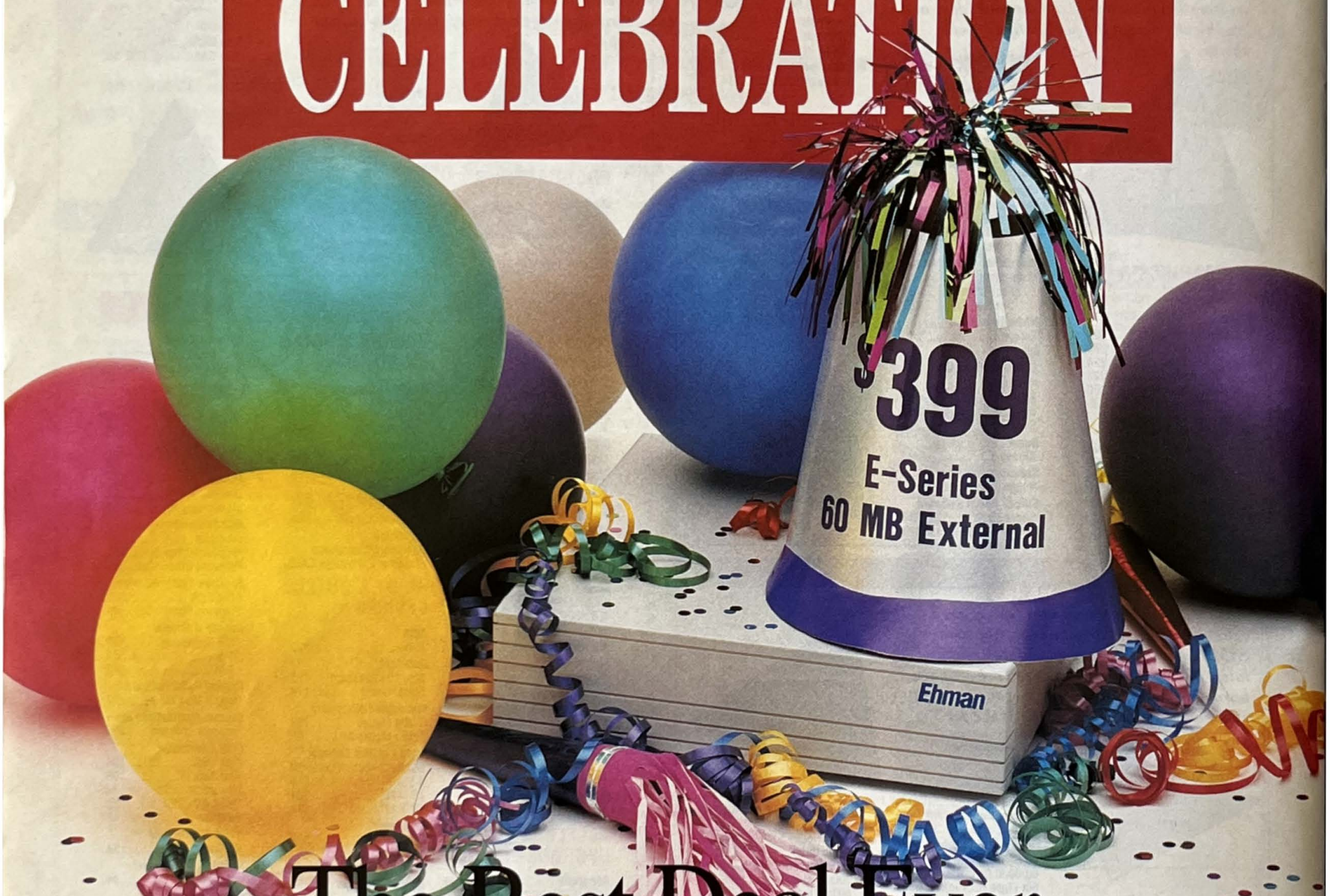

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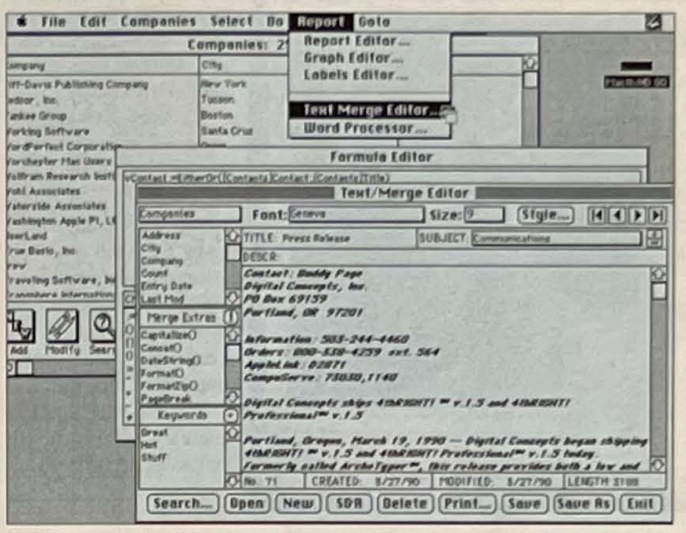

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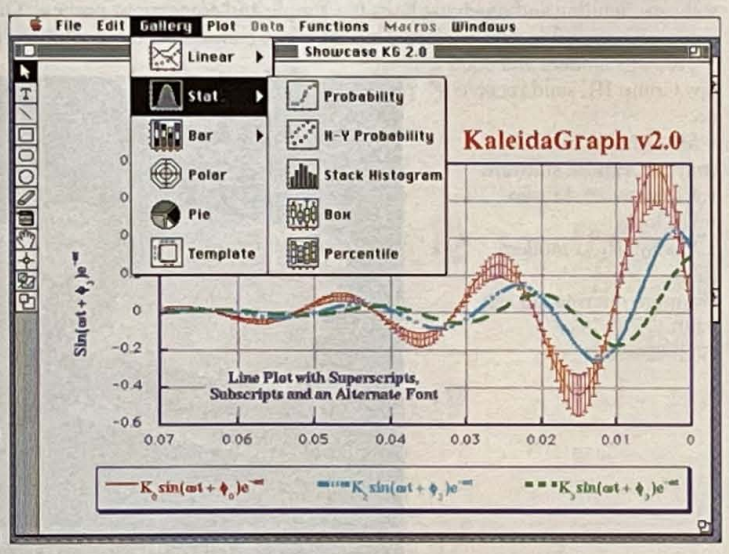

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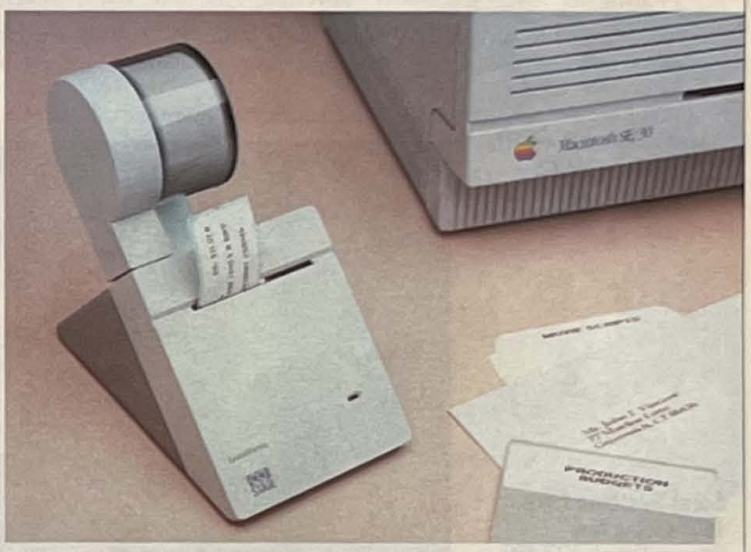

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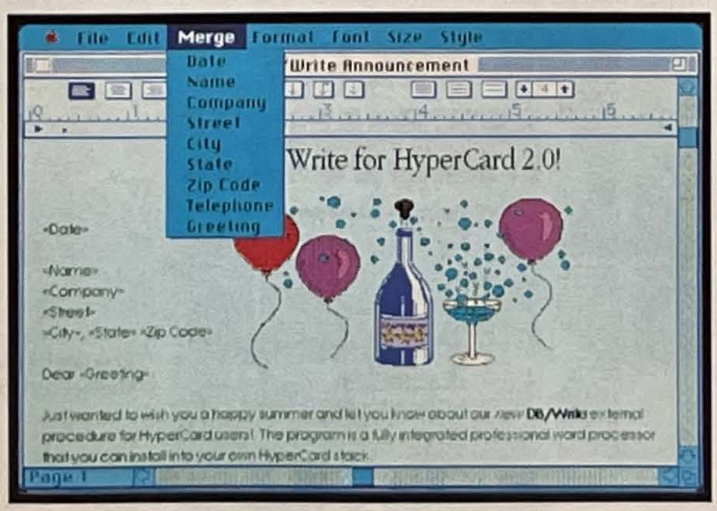

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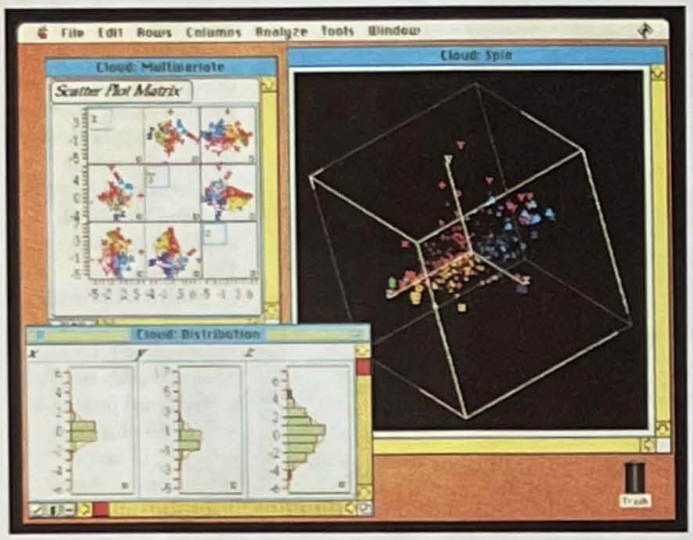

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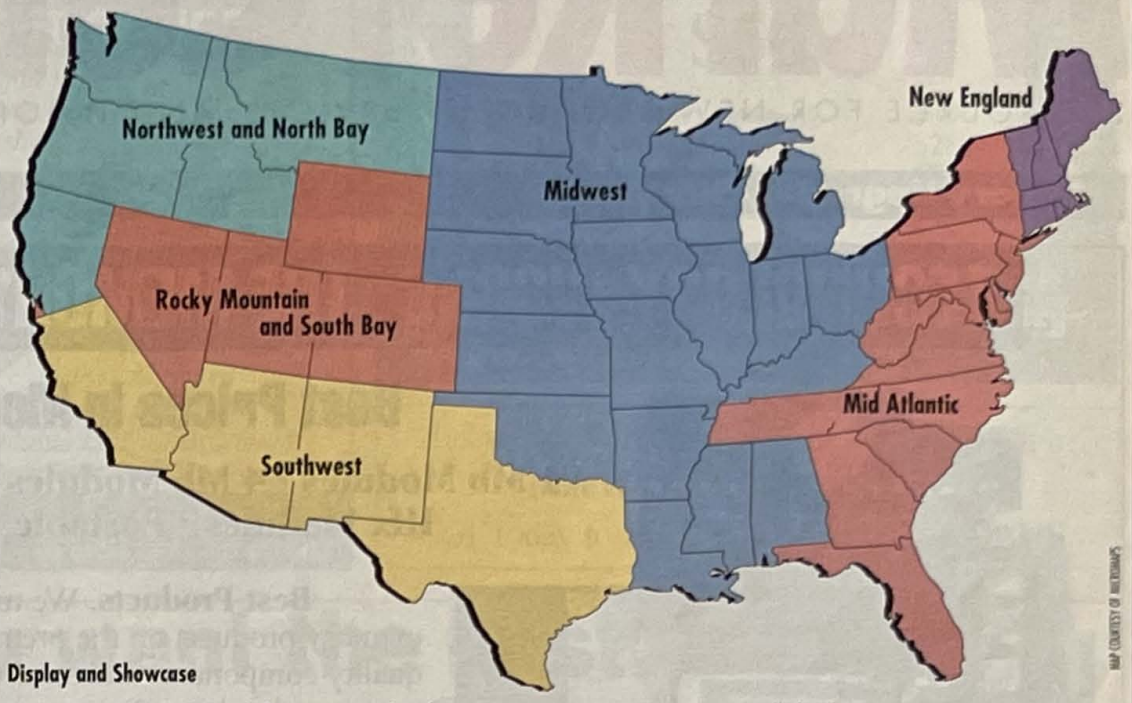

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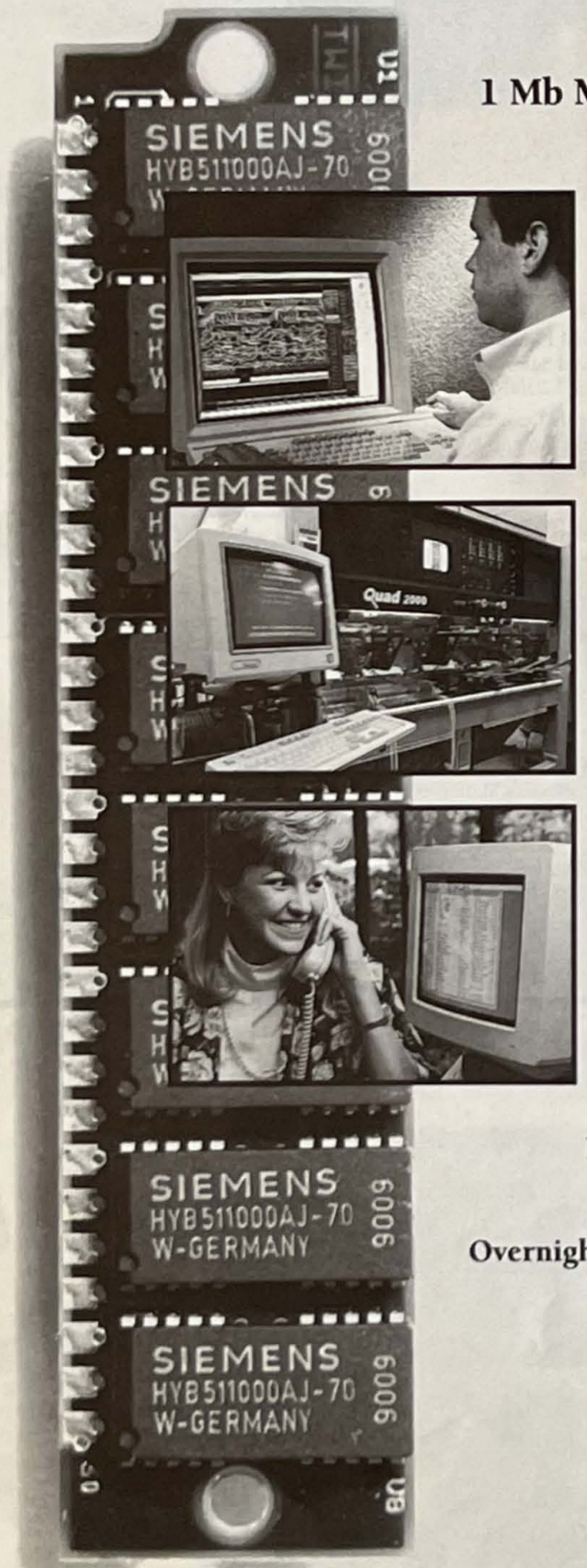

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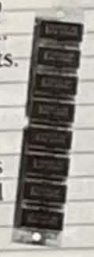

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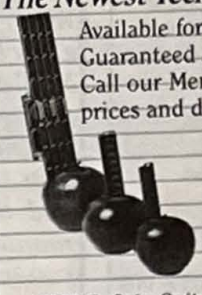

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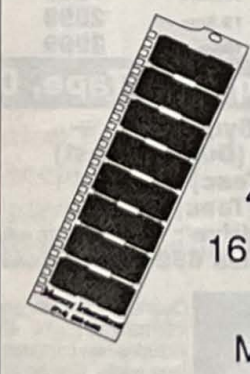

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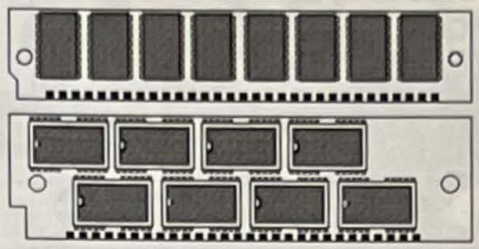

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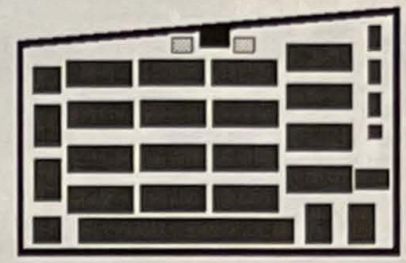

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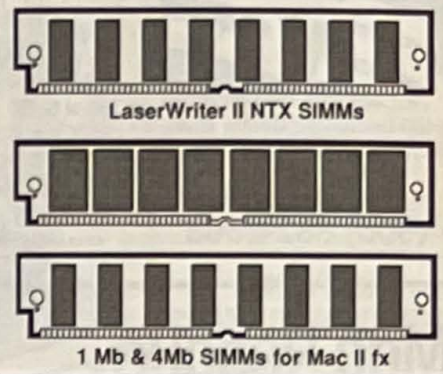

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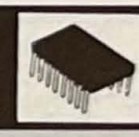

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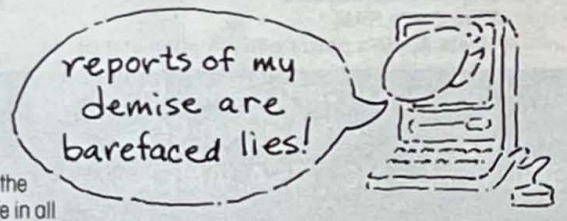

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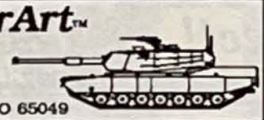

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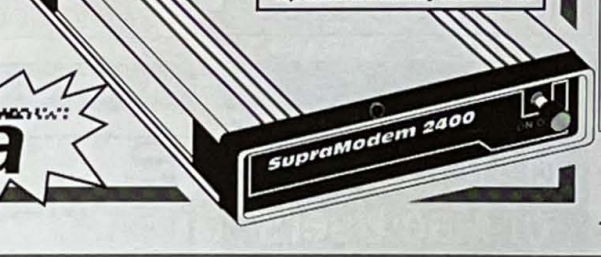

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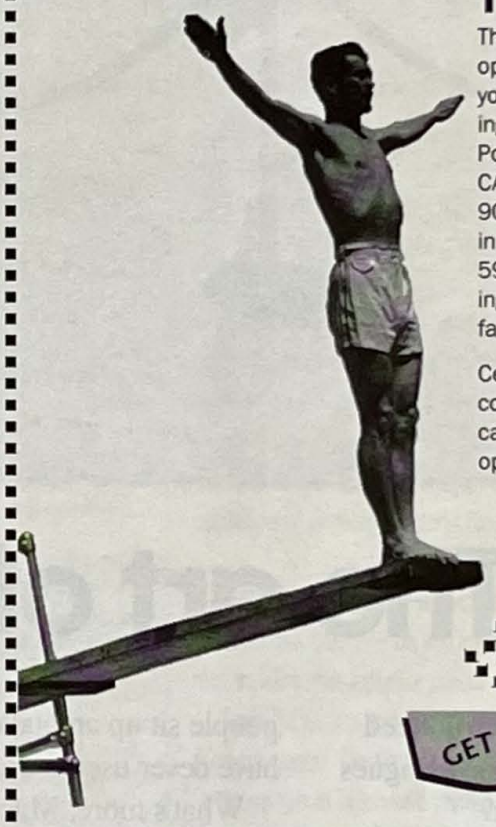

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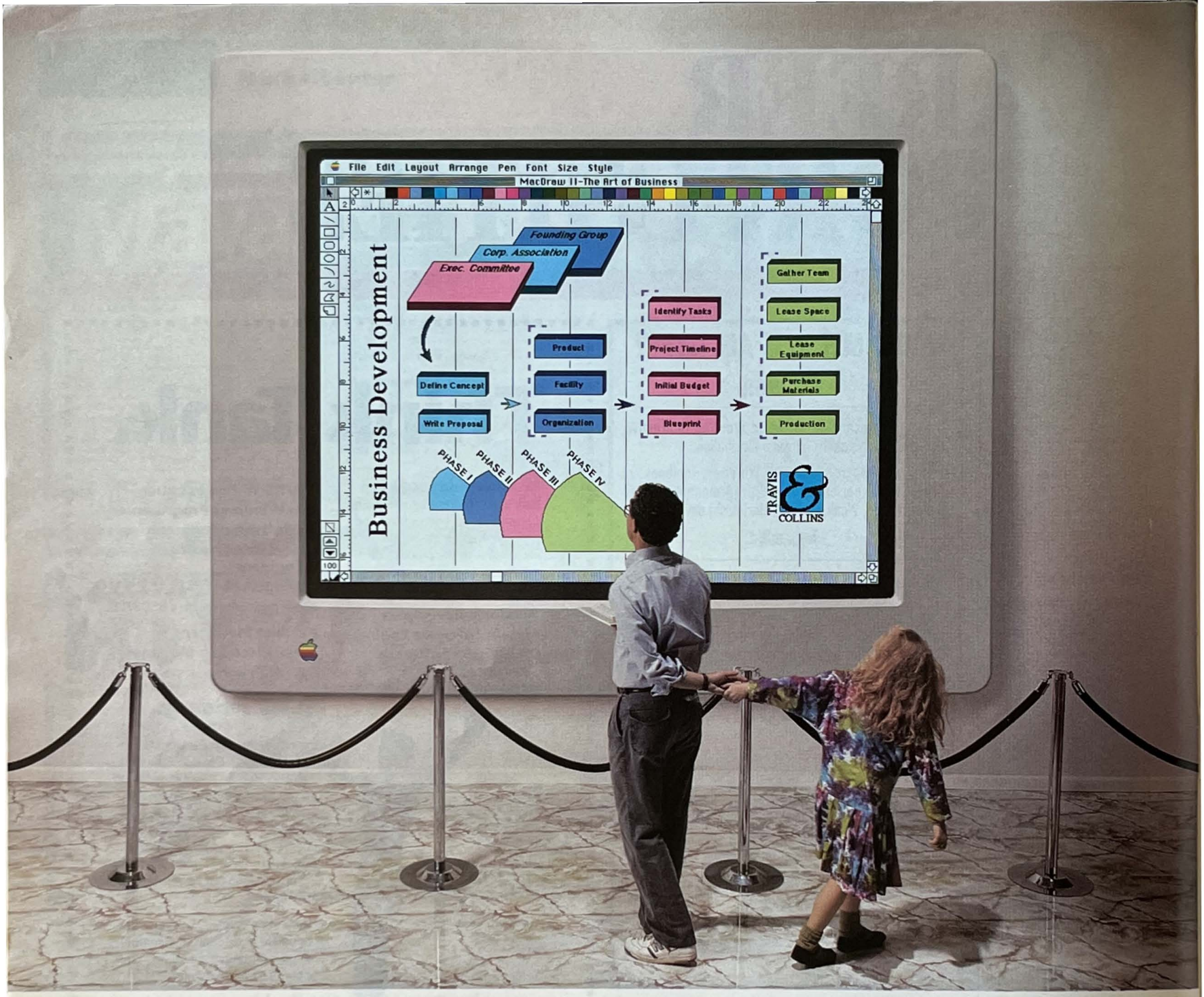

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Sculley: Apple taking RISC plunge

New architecture still 2-3 years off

By Daniel Farber

Boston — Developing RISC-based computers is a high priority for Apple, company officials told financial analysts gathered here earlier this month for the Macworld Expo.

Several Apple RISC (reduced instruction set computing) projects are under way, but machines are two to three years away from completion, CEO John Sculley said.

Some industry watchers said that long of a lag might hurt Apple's prospects. "If Apple waits two to three years before developing a RISC machine, it will be much too late for the company to remain competitive," said Richard Shaffer, publisher of the Technologic Computer Letter in New York.

A RISC machine also would require new system software incompatible with current Mac software.

"The Macintosh Toolbox is antique and needs to be updated and made more portable to other processors," Shaffer said.

Sources said that one Apple development project is centered on the 88000, Motorola Inc.'s RISC processor. Although the 88000 is not directly compatible with the 68000 family that the Mac line is based on, researchers reportedly are looking at ways to emulate the 68000 instruction set so Mac software will run on the chip.

Apple officials also told the analysts that Claris Corp. will release products for Microsoft Windows 3.0 in fiscal 1992, which begins in 13 months (see MacWEEK, Aug. 14).

See Analysts, next page

Apple aims to ease developer concerns of a Claris advantage

By Carolyn Said

Boston — What are the ramifications for independent developers of Claris Corp.'s return to Apple?

That topic drew about 35 company representatives to a meeting with David Szetela, manager of developer services at Apple, sponsored by the Software Publishers Association Macintosh SIG at Macworld Expo here.

Developers voiced fears that Claris will gain an edge through advance knowledge of system software and extra marketing and distribution help from Apple.

"Claris is on both sides of the fence [between applications and system software]," said Sue Morgan, founder of Softview Inc. of

See Claris, next page

Study: Mac, DOS or Windows?

Cupertino, Calif. — A recent Apple ad campaign is based on the latest in a series of company-funded studies gauging the responses of business users and MIS managers to the three leading microcomputer operating environments.

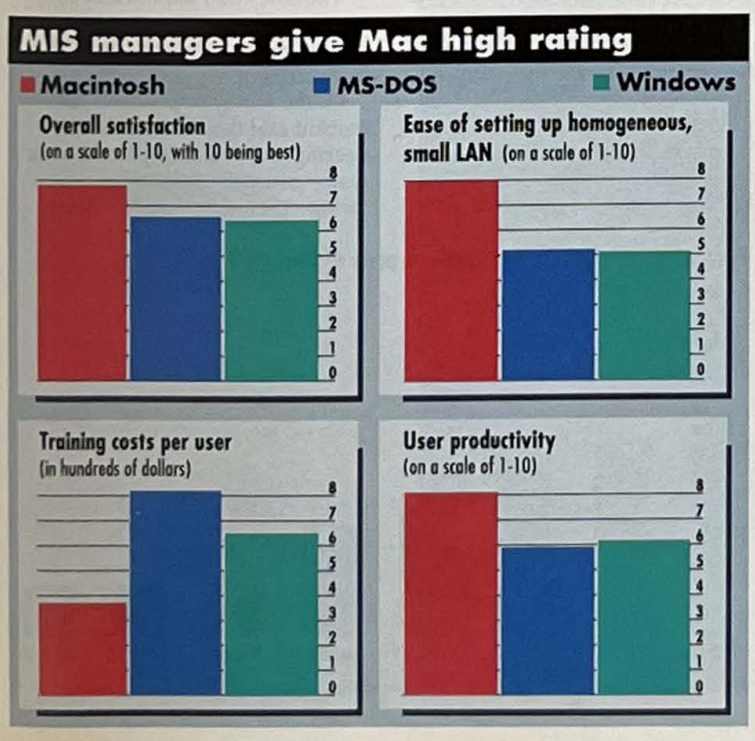
Conducted for Apple by Diagnostic Research Inc., the recent studies are summarized in a chart-filled report titled "Macintosh, MS-DOS or Windows?"

Respondents were asked to rate the three systems on a variety of criteria, using a 1-to-10 scale. Not surprisingly, the Mac won out, not only on issues such as ease of use, quality of business graphics and hours of training time required but also in overall satisfaction.

One key finding is that MIS managers gave the Mac an 8.1 rating for user productivity, whereas MS-DOS and Windows scored 5.9 and 6.2, respectively. (Apple's ads somehow translate these results into a 42 percent advantage for the Mac.)

The Windows part of the study, however, was based on Version 2.1, not the new 3.0 release, since interviews were conducted in March. And although Apple's ads refer to it as a study of Fortune 1000 users and managers, the report itself says the sample was drawn from Computer Intelligence Corp.'s data files of "Fortune 1000 and non-Fortune 1000 companies."

For a free copy of the report, call (800) 538-9696, Ext. 800. □



AppleCentre concept sort of comes to U.S.

By Pamela Pfiffner

New York — The Computer Factory, a reseller with more than 60 stores nationwide, will take a different approach to the successful European AppleCentre concept when it opens an Apple-approved Mac-only store-within-a-store this fall.

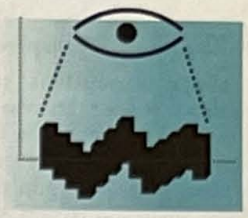
Called the Computer Factory/Apple Productivity Center and located in the company's flagship store in midtown Manhattan, the center is designed to showcase high-end Mac graphic arts and business systems for corporate accounts as well as individual users.

"The Apple Productivity Center has the full support of Apple and is the first of its kind in the U.S.," said Doug Press, director of marketing for the Elmsford, N.Y.-based reseller. Terms of the arrangement were not disclosed.

Computer Factory's U.S. Apple Productivity Center differs markedly from its more than 250 overseas counterparts, however. In Europe (see MacWEEK, Feb. 6), an AppleCentre must be set up as a separate legal company; in addition, it is completely designed by Apple. The Computer Factory center was not bound by any of these restrictions, Press said.

Moreover, the first U.S. Apple

See Factory, next page



Business BRIEFS

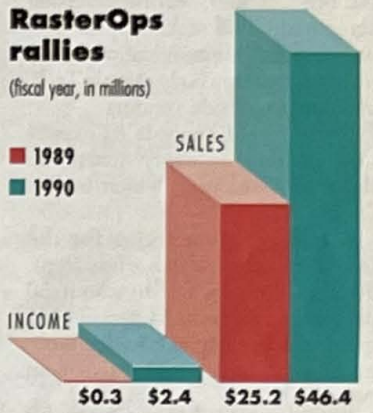
RasterOps posts record earnings, signs pact with DEC

Santa Clara, Calif. — In the wake of its initial public stock offering in May, RasterOps Corp. this month reported record earnings for fiscal 1990, which ended June 30.

Total sales were $46.4 million, up 84 percent from $25.2 million the year before. Net income for 1990 totaled $2.4 million, up 697 percent from $301,000 a year ago.

RasterOps' fourth-quarter net income was $790,000, a 675 percent jump from the same period in 1989, while sales for the quarter were up 85 percent to $13.3 million.

RasterOps also announced an OEM agreement with Digital Equipment Corp. The pact calls for RasterOps to develop a high-resolution display system combining 24-bit color graphics with on-screen video. The system will be be incorporated in the DECstation 5000 workstations in the first quarter of 1990. RasterOps already offers display systems for Sun platforms and has announced a PS/2 Micro Channel line, in addition to its Mac products.



Iraq crisis shakes MECA stock offering

Westport, Conn. — With a public stock offering and a name change, MECA Software Inc. is hoping that the world will beat a path to its door.

The company's initial offering on July 19 consisted of 2 million shares of common stock, half from the company and half from stock-holding employees.

Opening at $10 per share, the stock rose as high as $13, but by last Wednesday it was down to $8.25. "It was one of the casualties of the Iraq war," said Margaret Johns, vice president of corporate finance at Needham & Company Inc. of New York, which managed the offering with Hambrecht & Quist Inc. and Piper, Jaffray & Hopwood Inc.

MECA Software changed its name in June from MECA Ventures Inc. The company publishes Andrew Tobias' Managing Your Money for the Mac, as well as several financial and legal planning programs for MS-DOS machines.

Help wanted: Mac experts sought at AppleCenters in Japan

Cupertino, Calif. — Do you have a yen to go to Japan? Are you an expert on the Mac, familiar with Japanese culture and on good speaking terms with the language?

Apple Pacific has launched a campaign to introduce Mac experts to AppleCenter owners in Japan. The AppleCorps program will screen applicants, then provide AppleCenter owners in Japan with profiles and assessments of the candidates. Nipporica Associates of Belmont, Calif., which is managing the campaign for Apple, will then arrange interviews.

The first AppleCorps technical advisers will leave this fall for a sojourn in Japan of at least one year. Anyone interested in applying can contact Dianne Hofner, director of Nipporica Associates, at P.O. Box 5156, Belmont, Calif. 94002; (415) 571-8019; X2319 on AppleLink.

Software Publishers Association gets new leadership

Washington, D.C. — A new regime has swept to power at the Software Publishers Association. Jeff Raikes, Microsoft Corp.'s 32-year-old vice president of office systems, will become chairman of the SPA board, while Doug Carlston, president of Broderbund Software Inc., will serve as president of the 670-member trade group.

Analysts

From previous page

Claris executives said they expect that later this year the company will take over the marketing and development of several Apple-labeled software products, such as AppleShare and HyperCard.

Apple officials cited four strategic directions for the coming fiscal year:

- Focus on high-volume, entry-level machines.
- Concentrate on broadening areas of innovation beyond graphics.
- Reduce the time required to bring products to market.
- Enter into strategic relationships with external parties.

Key among such relationships, the officials said, will be licensing agreements that make Apple's networking and communications technology, particularly AppleTalk, available to outside vendors.

Sculley told analysts to expect new products in every quarter in the next fiscal year, which begins Oct. 1.

Apple's gross margins for the fourth quarter, which ends Sept. 30, are likely to fall to about 50 percent, down from 54 percent last quarter, according to Charles Wolf, an analyst with First Boston in New York.

For the first quarter of fiscal year 1991, analysts expect a dramatic increase in unit sales as Apple ships high-volume, lower-cost Macintoshes.

They warned, however, that lower margins on the new Macs could have an adverse effect on earnings. □

Claris

From previous page

Oxnard, Calif. "The rest of us are on one side."

Claris will have to erect a great wall between applications and system software to ensure that it doesn't gain an unfair advantage, Szetela said. Claris employees "won't be able to wave their cards, walk into Apple's engineering buildings with a 45-Mbyte removable drive and load source code."

Claris' new relationship with Apple might benefit developers, for example, if Claris core technology (such as extended technology for help systems and spell checking) becomes more widely available, Szetela said.

Claris is already on the list of "most-favored" developers, which Apple seeds with forthcoming system software, and Szetela tried to convince the developers that such ties could help them by serving as a proving ground. Claris, for instance, already has pioneered in adapting applications for Apple Events, the System 7 feature that will let users link software components.

Nor will Claris receive special treatment on the marketing and distribution side, Szetela said. The company's share of the $40 million Apple has budgeted to support developers in 1991 will not increase.

Claris products will not be bundled with Macs in the United States, Szetela said. "I am 99 percent certain that Claris Works will not be bundled with the new low-end machines." (Claris Works is a Mac version of AppleWorks reportedly under development at Claris.)

However, he pointed out, international Apple subsidiaries operate as independent units. "It's possible that they may act in a different way," he said. □

Claris topic of Gassée talk show

Boston — Claris was also a hot topic at a larger forum at Macworld Expo: Apple Products President Jean-Louis Gassée's talk-show spoof.

Acting as an alter ego for many in the crowd, Gassée shot several serious questions about future plans at Claris CEO Bill Campbell.

The Claris chief sidestepped a question on whether Claris will market HyperCard and Apple-Link by saying, "I'm trying to be as vague as possible."

Campbell acknowledged that the three years of Claris operating as an independent company "outside the realm" had been "very stimulating." Sounding almost wistful, he said, "I guess you could say I wish I was still there." Campbell was informed of Apple CEO John Sculley's and Chief Operating Officer Mike Spindler's decision to "spin-in" Claris "after the fact," he said.

Factory

From previous page

center will not be selling equipment nor providing training services, two stated criteria of the European model.

Customers who want to purchase a just-demonstrated product will be escorted out of the glass-walled Apple Productivity Center to the proper aisle in the main store. Similarly, training services are offered at 40 Computer Factory retail stores, but not at the center itself.

By eschewing sales and service, the Productivity Center's approach could solve Apple's dilemma of how to offer the AppleCentre message without undercutting dealer sales and service.

The center will offer seminars and workshops about complete systems, particular products and general Mac computing topics, as well as hands-on demonstrations of Apple and third-party products.

"We will have related third-party products but only those that will make our customers more productive," Press said.

Highlighting interplatform connectivity and networking, the center will be rigged with AppleShare and Novell networks and feature Mac-to-PC and Mac-to-mainframe connectivity, Press said.

Computer Factory proposed the idea to Apple. "We said, 'This is what we want to do. This is how we can sell high-end Mac products. This is how we can show the Apple Advantage.' Apple agreed and pledged its financial support," Press said. □

Wireless AppleTalk headed for court

By Margie Wylie

Mountain View, Calif. — A wireless AppleTalk networking technology has provoked a lawsuit between T/BD Associates Inc. of Princeton, N.J., and Agilis Corp., based here.

Filed in April, the suit centers on an agreement between T/BD principal Michael Plotnick and Agilis over rights to the technology. Plotnick (a former employee and co-inventor of the Agilis spread-spectrum radio networks) and his partner transferred the technology to Agilis when they joined the company in 1988.

Plotnick, who left Agilis in January, filed suit to get court clarification of his rights to use the technology at his new venture, claiming that a clause granted him rights to use the technology in "areas that do not compete with the company's business of mobile computing applications." He said his new AppleTalk devices, developed for "a major Apple networking vendor," are stationary and therefore do not compete with the line of hand-held mobile networking devices that, until recently, were Agilis' sole product.

Agilis last month added a twist by announcing that it has dropped the hand-held devices in favor of developing off-the-shelf wireless connections for IBM PCs and Macs. Agilis President Ken Biba said, "We don't want to limit any customer by saying that a wireless device has to be stationary." □

MarketWEEK

STOCKWATCH

Technology stocks battered as market continues slide

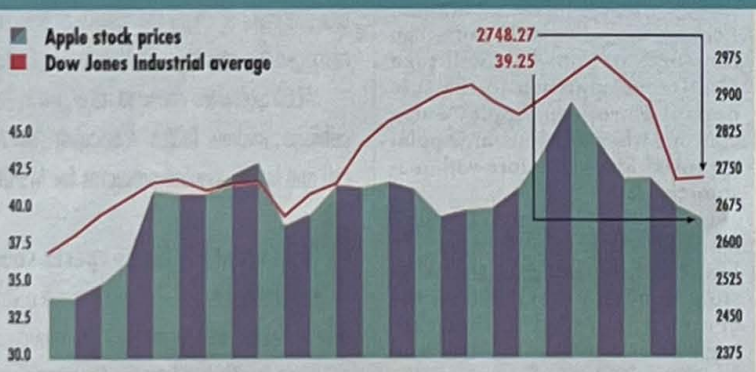
Investors, spooked by the specter of a prolonged stock-market slide, bailed out of technology stocks last week.

For the second consecutive week, Businessland Inc. was singled out for special punishment. This time, though, its stock dipped only 6.67 percent, a modest loss compared with last week's 45 percent plunge.

Sun Microsystems Inc. fell 6.61 percent after announcing it will sell nearly 7 million common shares to the public. Two weeks ago, Sun agreed to sell 4.58 million shares of its common stock to AT&T for $192 million, increasing AT&T's stake in Sun to 14.7 percent.

In an attempt to bolster its depressed stock price, Ashton-Tate Corp. said it authorized the repurchase of up to 2 million of its 27 million common shares outstanding.

Apple also received more sell than buy orders, falling 2.18 percent to $39.25.



Mac-related stocks

	CLOSING 8/8/90	CLOSING 8/15/90	PERCENT CHANGE	P/E RATIO	ANNUAL HIGH	ANNUAL LOW
MAC-RELATED COMPANIES						
Adobe Systems Inc.	30.00	29.50	-1.67	17	50.75	14.00
Aldus Corp.	25.75	27.25	5.83	21	29.25	12.25
Apple	**40.13**	**39.25**	**-2.18**	**9**	**50.38**	**31.88**
Ashton-Tate Corp.	9.00	8.63	-4.17	-7	15.13	8.13
Businessland Inc.	3.75	3.50	-6.67	-5	13.63	2.00
Microsoft Corp.	63.50	64.25	1.18	27	80.75	28.00
Motorola Inc.	76.00	74.75	-1.64	19	88.38	52.75
Seagate Technology Inc.	11.00	10.75	-2.27	6	19.75	10.00
3Com Corp.	13.75	14.50	5.45	21	19.00	10.00
INDUSTRY INDICATORS						
Digital Equipment Corp.	69.25	69.75	0.72	129	103.38	67.38
IBM Corp.	103.13	105.00	1.82	15	123.13	93.38
Sun Microsystems Inc.	30.25	28.25	-6.61	23	37.25	14.63

Compiled by Nordby International Inc., Boulder, Colo.

MARKETWATCH

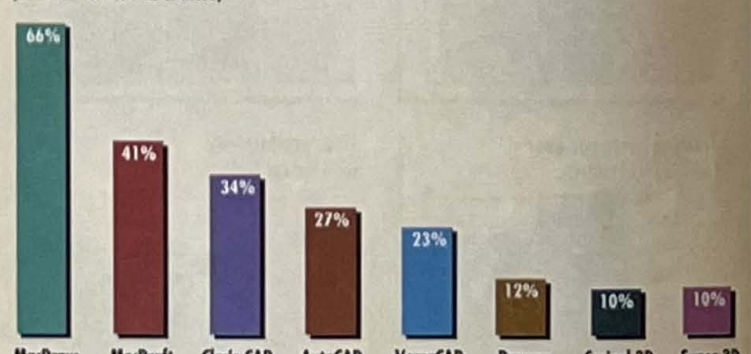
Claris' MacDraw finds favor for CAD work

In MacWEEK's recent CAD study, Claris Corp.'s MacDraw was cited as the program most often used for CAD work, even though the software was never designed with CAD in mind. MacDraw is used at 66 percent of the sites surveyed, followed by MacDraft from Innovative Data Design Inc. at 41 percent. Claris CAD was named by 34 percent of the sites.

The study also showed that 43 percent of Mac CAD packages were purchased directly from the manufacturer.

Of the survey respondents, 26 percent said they work in the engineering sector, and 26 percent work at non-computer-related manufacturing sites. — *By Nathalie Welch*

Percentage of sites using various brands of Mac CAD software
(In use at 10% of sites or more)



Base: Some CAD design work done on Macs Source: MacWEEK CAD Study

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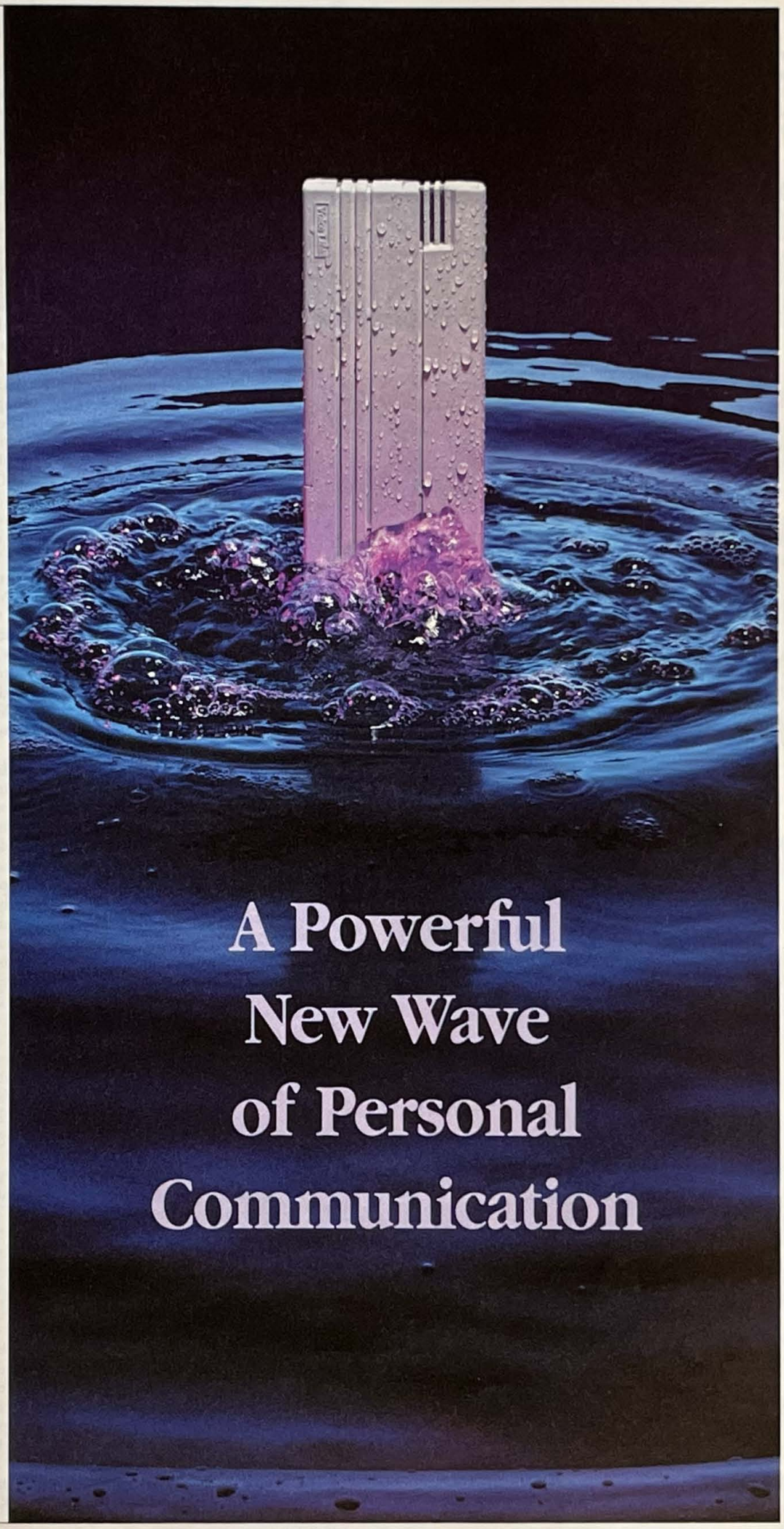

New Interface

Keeps Mac Ahead of Windows 3.0

Macworld Expo, Boston -The boundary that separated the Macintosh from IBM and compatibles has begun to blur now that Microsoft Windows 3.0 can give DOS users a Mac like environment. The $10 billion question is how can the Macintosh continue to compete effectively in a market where DOS users no longer suffer "Mac interface envy". The answer to this pivotal question is being forged. A new user interface which enhances the Macintosh advantage was unveiled at Macworld Expo.

Articulate Systems Inc., pioneers in voice communication technology introduced its second generation Voice Navigator™. The Voice Navigator II allows anyone to control a Macintosh by using spoken commands. "This is a tool of immense power. The Voice Navigator is the most significant breakthrough in interface technology since the graphical user interface, launched with the Macintosh in 1984" said Scott Didlake, a Voice Navigator user and producer of Macintosh interactive multimedia.

The user can literally modify the interface of any application to suit his personal needs. In practice under a graphical user interface, hundreds of physical manipulations are required such as pulling down menus and clicking on buttons to navigate through the application. Functions are buried in several layers of commands or manipulations. Any function of the application, regardless where it lies in the menu hierarchy, is immediately accessible to the Voice Navigator II user.

The voice interface maintains the Macintosh advantage over Windows 3.0. "Mac interface envy" is back with the Voice Navigator. At a suggested retail price of $595, the Voice Navigator II is affordable to every Macintosh owner. ■

NuBus TV finds its niche

Not every threatening cloud has a silver lining, but there turns out to be a mildly amusing Mac angle to the ongoing worldwide unpleasantness. Sources at Aapps, which was first on the market with TV on a NuBus card, report a dramatic increase in interest in its DigiVideo product. Government agencies, particularly the Pentagon and the State Department, are the source of the increase in inquiries. According to Aapps, government personnel are hot to have access to CNN in a resizable Mac window while they coordinate such otherwise mundane things as massive troop deployments. While officials at Aapps are naturally pleased with the new opportunity, they wonder about the company's long campaign to educate the market that television on the Mac is not just for watching "The Simpsons."

All indications show that HyperCard 2.0 Beta 50 was scheduled to be sent to developers over the weekend. Ever optimistic, Apple sources claimed that this beta is the final one. Apple also has an announced hardware product that's getting a little long in the development tooth: The high-tech 8•24GC graphics accelerator board, announced concurrently with the Mac IIfx last March, still isn't shipping. Developer Services has told some developers that it won't ship until October, although unnamed Apple sources have quoted both late August and September to the Knife. Only time will tell this story.

Excel to the future. As night follows day, Microsoft will one day update Excel to Version 3.0 (or, given the company's record, perhaps 3.2 or 3.3). And as surely as the Eastern Bloc economies will eventually integrate with those of the West, the new Excel for the Mac will look amazingly similar to the Windows and OS/2 versions of the program.

To implement its commitment to simultaneous releases of Excel for all three platforms, Microsoft has set up development groups for each version. According to the Knife's sources, they may come close to achieving that goal next year when the Macintosh upgrade is released. The Windows and OS/2 versions are expected to follow by only a few weeks.

According to the Knife's sources, the design of Version 3.0 has been heavily influenced by both Windows 3.0 and Informix's Wingz. There's a new button bar, similar to the Word for Windows Ribbon, that includes buttons for such tasks as cursor navigation, outlining, pasting in the SUM function, a selection tool and a chart icon. The chart icon, by the way, is a gateway to a substantially improved Excel charting function. Microsoft is also planning a host of additional enhancements, including PageMakerlike layout features in the preview mode.

Claris watch. While Microsoft is busy making all its GUI applications functionally and visually identical, the management at Claris is concerned with more down-to-earth problems, such has how to integrate Apple's total ownership of the company with plans and programs that were launched in the heady days when Bill Campbell dreamed of a lucrative IPO.

During the week before the Boston show, Claris made a few organizational shifts to incorporate the technology expected to be acquired from Apple into what had been an all-applications company. In the wake of Dan McCammon's assumption of day-to-day management of the applications group, Yogen Dalal, VP of product development, and John Zeisler, VP of marketing, have been given the charter of setting up an as-yet-unnamed group to handle extended system software. Their job descriptions have temporarily changed, but the titles remain the same.

Extended system software is a broad category, and it's not clear if software like AppleShare and HyperCard will be considered Claris applications or system extensions. Claris-developed extensions to system software could then be made available to third-party developers, who've lately expressed their displeasure at the perceived advantage Claris now has with its Apple connection. The desired end result is to keep the Mac platform more technologically advanced than the competition. All that's left to implement this plan is for Apple to get off the dime and decide what to hand off to Claris. □

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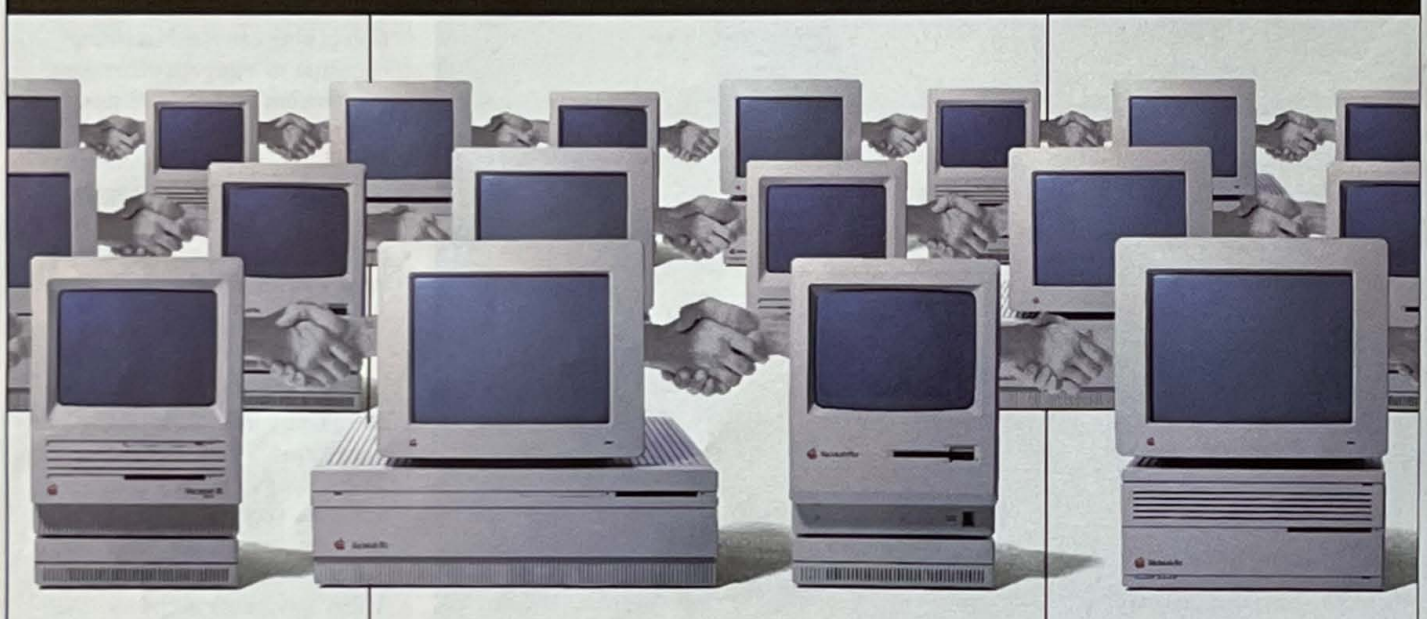

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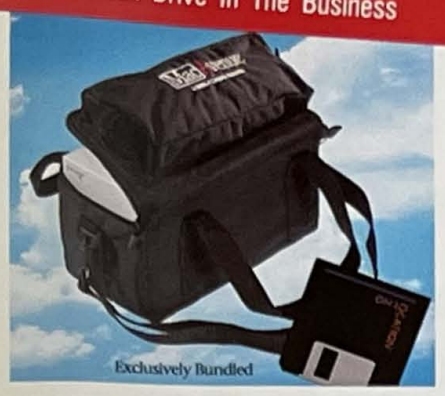

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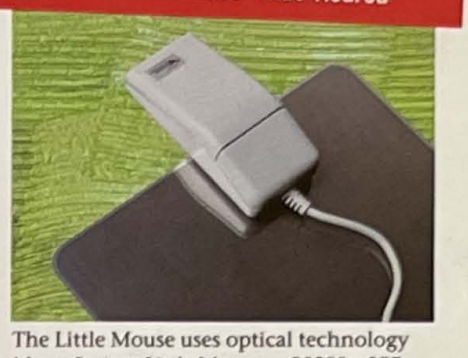

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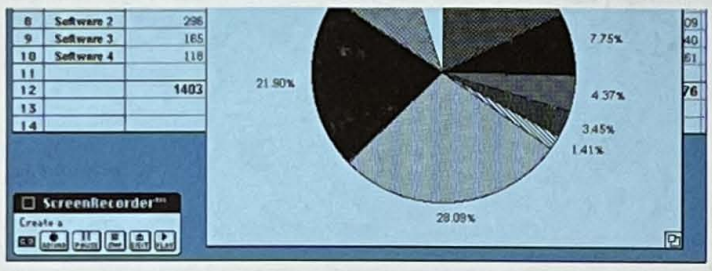

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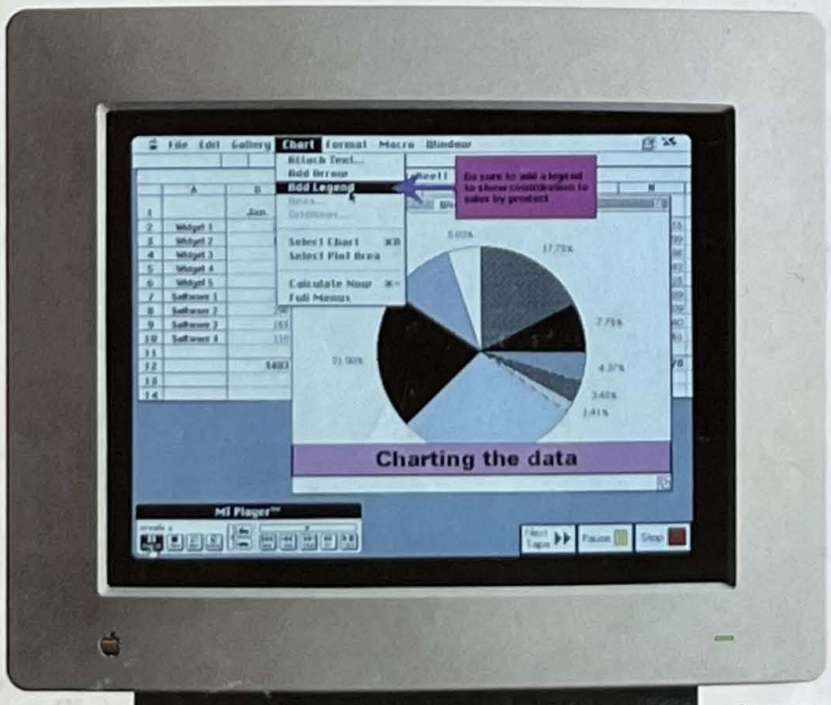

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